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AT THE MARGINS OF THE MARKET:
CONCEPTIONS OF THE MARKET
AND MARKET ECONOMICS IN SOVIET ECONOMIC THEORY
DURING THE NEW ECONOMIC POLICY, 1921-1929

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ABSTRACT

The period of the New Economic Policy was a time when the Bolshevik government was forced to reconsider its attitude towards the market, as NEP involved the introduction of market elements into Soviet society. This thesis is a comparative study of eleven Soviet economic theorists from this period; Bukharin, Preobrazhenskii, Strumilin, Bazarov, Groman, Kondrat'ev, Oparin, Sokol'nikov, Yurovskii, Chayanov, and Blyumin.

It asks two basic questions: how did each theorist conceive of the market, and how did they relate this conception to socialism? The primary source material used is the works of these theorists, and in many cases this material has not been previously discussed by scholars. A theoretical framework places these conceptions into a historical context.

The basic result obtained is that there were many diverse conceptions of the market prevalent in this period. The bulk of the thesis investigates these various conceptions, and suggests that their theoretical roots lie in various currents of economic thought: classical, neo-classical, Marxist, and socialist. During NEP these currents were allowed to mix freely to a certain extent, although pressure to censor them began to build towards the end of the 1920s.

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ABBREVIATIONS, SYMBOLS, AND EQUIVALENTS USED IN THIS THESIS

GOELRO - State Commission for the Electrification of Russia

Gosbank - The State Bank

Gosplan - The State Planning Commission

Narkomfin - The People's Commissariat of Finance

Narkomzem - The People's Commissariat of Land

NEP - New Economic Policy

SNK (Sovnarkom) - The Council of People's Commissars

STO - The Council of Labour and Defence

TsSU - The Central Statistical Administration

VKA - *Vestnik kommunisticheskoi akademii*

VSNKh - The Supreme Council of the National Economy

c = constant capital

v = variable capital

s = surplus value

e = the limit of $(1 + [1/n])^n$ as n tends to infinity, 2.7182...

pi = 3.14159...

1 pood = 16.38kg

1 *chervonets* at par = £1.06 or \$5.15 (gold)

1 desyatin = 2.70 acres

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'The market' is one of the terms most frequently employed by economists. However, on close scrutiny it turns out that everyone interprets the market in a different way and that there are many rather vague associations connected with it.¹

Janos Kornai

1.1 - MEANINGS

The Oxford English Dictionary defines 'market' as 'the meeting or congregation of people for the purchase and sale of provisions or livestock, publicly exposed, at a fixed time and place'. Thus the word market carries a 'place' meaning. But when speaking of 'the market' in the abstract, as a mechanism for allocating scarce resources, it means something different. In this sense it is a mechanism for harmoniously co-ordinating production and distribution in line with certain efficiency criteria, for example Pareto-optimality.² The market provides *ex post* verification of product utility, and in this sense planning can be seen as an attempt to devise a system which operates *ex ante*. In his *Principles of Economics* of 1890 Marshall uses Cournot to expound what he thinks economists understand by the term 'market' - not any particular market place in which products are bought and sold, but a region in which buyers and sellers 'are in such free intercourse with one another that the prices of the same goods tend to equality'.³ Marshall's definition shows that the market mechanism is often used as a synonym for the price mechanism.

Janos Kornai in *Anti-Equilibrium* analyses the market as a elementary contracting process similar to Walras's *tatonnement*. According to Kornai the market for a product is the set of all elementary contracting processes relating to that product, and the market of the national economy is the set of markets for all products. In this sense the market is a network of relations functioning as a process over time.⁴ However, Kornai stresses that a market regulated by free contract prices is a special kind of market, and argues that the simplistic opposing of

'plan' to 'market' misunderstands the nature of economic control systems.⁵

In Marxist and socialist literature a very different meaning has grown up around the word 'market', namely an unfair, irrational and spontaneous mechanism through which workers are exploited and are drained of surplus-value, and through which capitalism manufactures and partially overcomes economic crises. Marxists may reject some or all of the 'bourgeois' definitions given above, claiming that they obscure the exploitation process, and they contrast the anarchy of the market with the rational and superior economic plan.

In partial opposition to the neo-classical view of the market as simply a pricing mechanism, there could be identified a von Mises/Hayek view which sees the market as most importantly a transmitter of knowledge. The price system in a kaleidic economy is one among many structures in which individuals make use of formulas, rules, and inarticulable knowledge without having to consciously understand their full meaning. For Hayek the fundamental problem is how to utilize knowledge which is not given to anyone in its totality, ie is initially dispersed among many people. According to Hayek the market provides the best mechanism for conveying information and registering change, information which each individual requires in order to 'plan' their activities, and thus the market is a form of 'decentralised planning'.⁶

The first meaning of the word 'market' is reflected in its etymological roots. The Latin *mercatus* meant a place of trade, and the Russian word *rynok* (borrowed from the Polish) comes from 'ring', ie a place to trade. The 1955 edition of the *Bol'shaya sovetskaya entsiklopediya* claims that in a socialist society a 'radical revolution' occurs in the nature of the market as opposed to capitalism. In socialism there are no labour markets or markets for the means of production, only commodity markets.⁷ This shows the first meaning of 'markets' only, and the market as a mechanism in either the neo-classical or Hayekian sense is not present. In much Soviet literature the phrases 'law of value' and 'commodity-money mechanism' are often used as euphemisms for the market mechanism, and much debate occurred in

the 1920s about whether the law of value existed in Soviet society. I shall be examining this debate as far as it throws light onto the notion of 'market'.

In the sense of meanings the historical battle between socialists and supporters of *laissez-faire* can be seen as an ideological fight to attach their meaning to the word 'market' in the heads of as many people as possible. In this battle polemical flourish has often taken the place of detailed empirical study and attempted verification or falsification of propositions. The purpose of this thesis is to investigate this battle in a specific context: the USSR in the 1920s. In the next section I outline this aim in more detail.

1.2 - LINES OF INVESTIGATION

In this thesis I examine eleven Soviet economic theorists who were active in the period of the New Economic Policy (1921 to 1929). As I investigated their work I had the following specific questions in mind:

- 1) what do they think the market (and market economics) is;
- 2) what has the market to do with socialism.⁸

To find answers to these two questions was the primary aim of this thesis. However, other secondary questions such as how will the market and its associated phenomena be used in the transition arose from the nature of the period itself, and thus had to be examined to some extent.

The reasons why I chose to embark on an investigation of this topic were basically two-fold. Firstly, as *perestroika* was attempting to justify the transition to a market economy through a reappraisal of NEP, I thought it would be useful and revealing to go beyond the drawing of historical 'lessons' for current use from the past, to see how economic theorists from NEP actually viewed the market as this time.⁹ Secondly, NEP was a period when those who had condemned the market as exploitative and irrational were forced to use it for their own ends. Thus interest lies in seeing if the actual experience of governing a semi-market economy altered conceptions of the market which the Bolsheviks had held previously on a purely theoretical level.

The question arises of why I chose the particular theorists discussed in this thesis. I wanted to investigate the full range of opinion which had existed on the market during NEP, and thus I chose people from disparate institutions and groupings. I also wanted a balance of well-known, somewhat known, and totally unknown theorists. Bukharin and Preobrazhenskii represent the two wings of the Bolshevik party, and are well-known in relation to the industrialisation debates which occurred in NEP. Kondrat'ev and Oparin were both members of the Conjunction Institute. Kondrat'ev is famous for his idea of long-waves, but other aspects of his thought remain little-investigated. Oparin is totally unknown. Chayanov, like Kondrat'ev, was labelled a 'neo-narodnik' by detractors, and is famous for his analysis of peasant economy. Strumilin, Bazarov, and Groman represent the divergent currents which existed in Gosplan in the 1920s. All three are somewhat known, but the detail of their economic theory remains uninvestigated by Western scholars. Bazarov and Groman were both Mensheviks, a fact which counted against them when NEP was abolished. Blyumin is totally unknown, and was a more orthodox Marxist critic of market economics. Sokol'nikov and Yurovskii, both of whom worked in Narkomfin, held perhaps the strongest pro-market views of those who I examined. Again although they are somewhat known because of the fate which befell them, the core of their economic work remains unanalysed in any detail. Thus I aimed in this work to ask an original question in relation to a set of economic theorists some of whom had previously been examined in relation to other questions, and some of whom had never before been analysed in any respect.

1.3 - OPTIMUM AND PLACE

Perhaps the two most divergent meanings of 'the market' are as a mechanism in an optimal economic system and as a place where trade is conducted. In the case of the former a number of different optima can be distinguished. A production optimum is concerned with the optimal use of resources in producing given outputs, and it is achieved when it is impossible to increase the output of one commodity without decreasing that of another.

For a production optimum to occur both optimal allocation of factors between products and between firms must obtain. An exchange optimum is concerned with taking exchange to its most efficient point, and it occurs when (for two goods and two consumers) the ratio of the marginal utilities of the two goods are equal. If the above conditions are met then one further condition is necessary for overall Pareto optimality to be attained: the ratios of the marginal utilities of two goods must equal their marginal cost ratio.¹⁰ In the sense of optimality the market is thus a freely competitive economic system where all consumers are utility maximisers and all firms are profit maximisers, which according to theory will result in the optima examined above being achieved.

However, a very different view of the market is given by its 'place' meaning. An organisation model of the market stresses its polycentric nature, and the actions of members in a market network are autonomous rather than centrally-governed.¹¹ Johann Heinrich von Thunen's work *The Isolated State* of 1826 pioneered the spacial approach to market location. Assume that an agricultural product is produced at a uniform rate throughout an entire homogeneous area. With a single consumption point at the city centre of the region, the supply region of this product will form a circular area of radius z' . If p_0 is the average cost of production constant at all production levels, if f is the average freight rate constant per unit of distance, and if p is the delivered market price of the product, then the boundary of the supply area is given by:

$$z' = (p - p_0)/f$$

If competition between different agricultural products is introduced, highly perishable or bulky goods will be produced near the city centre, while livestock will be located at the boundary of the region. In general the market supply area will be divided into a number of ring-shaped zones of specialised production regions. In each ring the product is produced which maximises net profit per unit of area, thus maximising the generation of ground rent.¹² In this sense a market is a place which is structured into zones by the nature of the goods

competing for production space and by the location of central selling regions.

1.4 - MODELS

This thesis will not be asking the question: how far is the market compatible with planning? It will, however, be asking the question: how far did x think that the market was compatible with planning? I take as axiomatic the fact that Marxists believe that socialism requires a 'planned economy' in some undefined sense, and that Marx thought that 'planning' was in some sense opposed to the market. In the thesis I hope to clarify what these statements mean for each theorist I examine. However, non-Marxist socialists are not doctrinally bound to planning, and thus are free to reject it in any way.

In the literature on comparative economic systems a sliding scale from complete planning to full market is sometimes employed, with centre variants such as market socialism and indicative planning, and it may prove useful to utilise this framework in the ensuing chapters in order to situate economists very roughly in relation to their colleagues. The model which Peter Wiles employs in *The Political Economy of Communism* of 1964 can be set out as follows:

CC ----- ICM ----- CM ----- CWE ----- RM ----- FM

Central Command (CC) - perfect central allocation in physical terms without money. Consumer consumption and labour allocation are totally planned. Inverted Centralised Market (ICM) - initiative lies with central planners, whose decisions as to the allocation of intermediate resources determine the whole. Within this sector money is passive, although outside of it it is used to persuade consumers and factors of production to conform to plan. This is achieved by suitable wage differentials and a varying rate of turnover tax. According to Wiles this is the closest to Soviet reality after 1928. Centralised Market (CM) - decisions as to intermediate resource allocation are centrally planned, but choices of consumers, workers, and land/capital

allocation are taken on free-market criteria. Industry distributes resources on market criteria but by central planned administration. Capitalist War Economy (CWE) - planners choose the pattern of final production, but managers are free to bid on the market for labour and materials to fulfil these plans. Regulated Market (RM) - indirect controls on the profit motive for the purpose of combating monopoly and market failure etc. Full Market (FM) - no controls on the profit motive, competitive markets, and decentralised decision-making.¹³

Wiles notes that he is concerned in these models with questions of allocating scarce resources, not with different types of ownership. Thus the question of ownership is not directly raised, but in taking this path Wiles implicitly separates the issues of ownership and economic efficiency. Brus, for example, has come to believe that such a separation is misleading, and thus the limitations of this model require recognition.¹⁴ Some may also argue that presenting these models as a sliding scale is misleading, since it implies that anywhere along the scale is equally feasible. Opponents of this view argue that only certain points along the scale can actually exist as efficient economic systems.¹⁵

The point of using this scale is to be able to state where each of the theorists I examine stands in relation to it. It could be argued that this is misleading since it projects a scheme developed some time later back onto theorists who could not have been familiar with it, and thus may tend to push them into convenient boxes in which they do not actually fit. I recognise this as being a danger, but believe that this can be avoided and this idea can give useful results.

Other theoretical work on markets provides useful ways of categorising them. In 'The Cognitive Function of Markets in Market Socialism' of 1990 Don Lavoie makes an interesting differentiation between three cognitive functions of markets. The computational approach takes the cognitive function of markets to be strictly calculative, eg Oskar Lange. The incentives approach understands that markets provide not only a means of spontaneous calculation, but also of psychological motivation and incentive, eg Nove. The discovery approach agrees

with the former approaches, but adds that the crucial function is the creation, discovery, and communication of knowledge through a social learning process, eg von Hayek.¹⁶ This discovery process, according to Hayek, cannot be centrally directed by a planning body.

Varieties of plan/market models can thus be characterised by the function they see markets fulfilling. Lavoie argues that varieties of market socialism such as Nove's seem to neglect the discovery approach to markets and thus fail to fully understand their function. Would-be socialists must focus attention on a replacement for or the operation of markets as knowledge producers for market socialism to be realistic. In fact the Mises/von Hayek approach to markets is perhaps the approach least mentioned in discussion of planning versus the market, and this is perhaps because it is outside the main current of neo-classical thought.

As I mentioned earlier, there is dispute about whether ownership relations are intrinsically connected with the market. Some would claim that private property is essential for the market mechanism to function efficiently, while others would argue that the market can (at least to some degree) be separated from private property and thus could be used in a social system where some form of socialised property was dominant. Again this is at least partly a dispute about what the market actually is. On this axis the far left and the far right are more likely to agree that private property is intrinsic to the market, although with totally opposite normative evaluations of this system, while towards the centre there is a greater tendency to separate these two features and allow them to exist alone. In this thesis I will examine this question only as far as the theorists I discuss have views on it.

Another way of approaching the study of markets is provided by Karl Polanyi. He sees the market as a type of exchange system that is only one among various alternative structural possibilities. Polanyi proposes a typology of three types of exchange: reciprocal, redistributive, and market. Reciprocal exchange occurs when individuals are reciprocally obligated by status to give and receive goods. Redistributive exchange exists

where members of a collective make contributions to a central agency, which allocates these resources according to given principles. Market exchange occurs where *homo economicus* acts only through price considerations.¹⁷ In this conception the market is an institutional structure through which trade is filtered rather than a mechanism which determines production priorities. For the purposes of this thesis it is also important to distinguish between a normative appraisal of the market and a technical conception of it. Theorists may agree on the former but disagree on the latter, or visa versa, or agree/disagree on both. They may also agree or disagree about what their understanding of the market has to do with socialism.

1.5 - AGAINST THE MARKET

This section will examine the nature of possible critiques of the market. Within one framework there are two possible types of critique of the market, internal (or immanent) critiques and external critiques. An immanent critique does not challenge the assumptions upon which advocacy of the market is founded, but rather follows these assumptions to their logical conclusion, showing either that these assumptions are contradictory or lead to undesirable results.¹⁸ Examples of this type of critique can be subsumed under the general title market failure, for example asymmetric information, externalities, corner solutions, public goods, and free-riding.

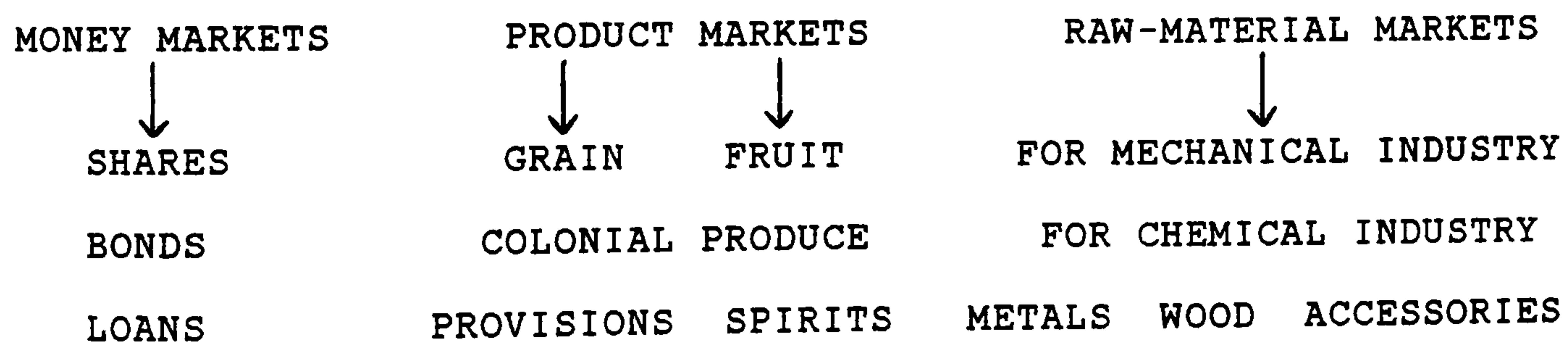
External critiques challenge the foundations upon which conventional advocacy of the market is based. For example by challenging the notion that a state of perfect competition could ever exist. The basic Marxist external critique is centred around the labour theory of value. However, this is interestingly problematic. At the time of writing the first volume of *Capital* the labour theory of value was not a critique of 'bourgeois' economic orthodoxy, it was the orthodoxy. Thus a part of the Marxist critique of the market has been transformed from a generally accepted foundation to a generally rejected mistaken paradigm. Thus the nature of critiques change as the nature of the assumptions they challenge develop. In relation to the Marxist version of the labour theory of value, it transforms

the criticism from being immanent for most of Marx's lifetime, to being external at the time of NEP. This makes the time factor important.

Another way to distinguish critiques of the market is to use a morality/efficiency axis.¹⁹ For Marx the market was both immoral, since it led to alienation of humans from their species-being (*Gattungswesen*), and inefficient, since the reserve army of unemployed and crises led to massive resource waste, although it may be argued that this inefficiency is itself immoral.²⁰ However, in contrast to this it is possible to view the Keynesian critique and those critiques centred on market failure as being predominantly of the efficiency type, without a strong emphasis on the moral dimension. In this thesis I will attempt to demonstrate what type(s) of critique of the market were prevalent during NEP.

1.6 - MARX AND THE MARKET

In this section I will examine Marx's conception of the market and some of his criticisms of it, as an understanding of Marx is required if later Marxists are to be examined. The 'place' meaning of the market (*der Markt*) is clearly present in Marx's work. In the *Grundrisse* of 1857/8 Marx presents a typology of markets in which three basic types of market are distinguished: money markets, product markets, and raw-material markets.²¹ This can be illustrated as follows.



The idea of the market as a mechanism for determining production priorities is also present in Marx, although he does not explicitly use the phrase 'market mechanism'. Since Marx agreed that price fluctuation determines the flow of capital into branches of production - branches producing above-average profit

receive an influx and those below-average experience a haemorrhage - the question becomes: what determines price? Gouverneur obtains the following model of Marx's theory of price determination from his works:²²

VALUE - MONETARY EXPRESSION OF VALUE - PRICE OF PRODUCTION - MARKET PRICE

Value is the amount of socially-necessary labour required to produce the product, and the monetary expression of value is this labour-time converted into money units. However, Marx notes that actual prices do not correspond to the monetary expression of value, rather they correspond to cost of production plus average profit. This gives the price of production. And when the product reaches the actual market where it is sold, its price is subject to fluctuations due to supply and demand, and thus the final price paid for the product is the market price.

However, while this is a neat and internally coherent model, it is constructed by a third person, and it is possible to find passages in Marx which contradict this interpretation. For example, in the *Grundrisse* Marx writes:

Supply and demand constantly determine the prices of commodities; never balance, or only coincidentally; but the cost of production, for its part, determines the oscillations of supply and demand.²³

Since according to Marx 'cost of production' means labour-time required, he seems to be saying here that somehow labour-time determines supply and demand. However, in another passage he writes that 'it is not the cost of production, ie the real value, but the market price which determines production'.²⁴

Marx gives an interesting analysis of supply and demand in volume III of *Capital*. Demand and supply coincide when the mass of commodities produced by a certain branch of production can be sold at their market value. However:

If demand and supply coincide they cease to have any effect...If two forces act in opposing directions and cancel each other out, they have no external impact whatsoever, and phenomena that appear under these

conditions must be explained otherwise than by the operation of these two forces.²⁵

According to Marx the real laws of capitalist production cannot be explained in terms of the interaction of supply and demand, since these laws are realised in their pure form only when the forces of supply and demand balance and thus cease to have any effect. Thus for Marx analysing the market in terms of the interactions of supply and demand was a misguided activity, since the laws which govern production for the market are revealed as they really are only when supply and demand balance. The type of laws Marx has in mind here are related to concepts such as the organic composition of capital ($q = c/c + v$), the rate of surplus value ($s' = s/v$), and the rate of profit ($p = s/c + v$), concepts which are absent from neo-classical economics.²⁶ This shows that Marx viewed production for the market in totally different categories than other economists, and thus that simple comparisons are difficult to make.

1.7 - NEO-CLASSICAL MARKET MECHANICS

In this section I intend to examine the neo-classical conception of the market in more detail, to point out some of its assumptions, and to sketch how this model evolved over time particularly with reference to the period which I am focusing upon. The contemporary textbook account is roughly as follows.²⁷ Five assumptions are central in getting the model off the ground. They are:

- 1) each participant has complete knowledge of market conditions;
- 2) actions as a result of price changes are frictionless;
- 3) no single participant has the power to affect the market outcome in any significant way;
- 4) unrestricted entry and exit;
- 5) homogeneous products.

In the case of a single market for a good, the supply and demand curves are determined as follows. The position of the supply curve SS is a function of the price of the product, the input-output relationship, and factor prices. The slope of this curve is determined by the price elasticity of supply. The position of

the demand curve DD is a function of the price of the good and of other goods, the income of the purchasers, and their set of subjective preferences. The slope of this curve will be determined by the price elasticity of demand of the good in question. The point where the two curves SS and DD cross is said to be the equilibrium position which determines both the price and the output level. The market is thus a self-equilibrating mechanism whereby any shifts in any of the determining functions of the two curves SS and DD automatically results in changes to the equilibrium position which compensate for the shift and thus return the system to equilibrium.

The above partial equilibrium analysis shows how a market for one good adjusts in response to certain changes in determining functions. A general equilibrium analysis shows how all markets interconnect and adjust to shifts in any one determining factor. However, one major assumption needs to be stressed. General equilibrium analysis shows how a system originally in equilibrium responds to a change in the initial conditions. General equilibrium analysis does not show (or claim to show) how such a state of equilibrium was first achieved. One of the results of general equilibrium analysis is to show that given the assumptions outlined such a model will achieve a Pareto-optimal position where all markets clear.

Assuming a perfectly competitive two homogeneous good economy (staples and luxuries) with two factors of production - labour and capital - and two income groups - capitalists and labourers - such an analysis would go as follows. Assume that consumers' preference shifts away from staples and towards luxuries, ie the curve DDa shifts to D'D'a and curve DDb to D'D'b. Assuming that profit maximisation occurs when marginal cost equals marginal revenue (price), and that production of luxuries is more capital intensive than staples, the price of staples would fall and that of luxuries would rise. This in turn would increase the demand for capital (moving DDd to D'D'd) and decrease the demand for labour (moving DDc to D'D'c), producing a shift in income from labourers to capitalists. Given this new income structure, consumers will re-allocate their expenditure and thus further shift their demand curves.

Given perfectly mobile factors of production, in the long run the supply curve of staples would shift to the left and those of luxuries to the right, bringing prices back towards their original level. Changing the price structure in this way could also have effects on other goods, depending on the relevant cross elasticities of demand. Other repercussions are also likely, but the general idea is clear. General equilibrium analysis shows how higher-order repercussions from changes in initial conditions spread through the economy, and in this sense the market is a system whereby shifts in initial conditions which have multi-level repercussions are transmitted from sector to sector and from market to market in a spontaneous manner.

However, it is an assumption that such movement will be towards equilibrium, not away from it. Cobweb theory shows that the market price of a good would not converge to an equilibrium position if its price elasticity of demand was smaller than the corresponding price elasticity of supply, given all the assumptions presented so far. In this case the price would move away from equilibrium. In general it is clear that these neo-classical models of the market depend on some highly restrictive assumptions which, although theoretically useful and elegant, are not always realistic. Even so this model is very powerful and it has received the greatest amount of elaboration of all the various conceptions which have so far been proposed.

How did this model evolve? This is obviously a very complex question, but some general points will be noted here. In the last quarter of the nineteenth century Walras, Menger, Jevons and Gossen each independently provided the general outlines of this approach, with Walras's work often praised as the most mathematically rigorous. If Marshall stressed the partial equilibrium method, Walras pioneered the general equilibrium approach. Some of the marginalist revolution was explicitly directed against the Marxist version of the labour theory of value, for example Bohm-Bawerk, although some of the pioneers (eg Walras) had socialist sympathies. By the 1920s the neo-classical model had become firmly established in Western economic theory as the most important and fruitful paradigm, although problems with it were recognised.

1.8 - MARXIST DEBATES ON 'THE MARKET'

While Marshall, Walras, Jevons et. al. were developing the neo-classical understanding of market mechanics summarised above, in Marxist literature debate on 'the market' took a very different form. Lenin wrote an article entitled 'On the So-Called Market Question' in 1893 in which the question of the requirements of capitalism for development in terms of markets was the main topic. Here 'the market question' meant the degree to which capitalism could develop in a non-capitalist country such as Russia, and the degree to which this development would negate itself by destroying the very markets which it required to develop.²⁸ In this work Lenin writes:

...the concept "market" is quite inseparable from the concept of the social division of labour...The "market" arises where and to the extent that the social division of labour and commodity production appear...the limits of the development of the market in capitalist society are set by the limits of the specialisation of social labour.²⁹

M.I. Tugan-Baranovskii entered this debate with an article entitled 'Kapitalizm" i rynok"' published in *Mir bozhii* in 1898, which was a response to a book by S. Bulgakov entitled *O rynkakh" pri kapitalisticheskoy" proizvodstve* of 1897. Tugan-Baranovskii relates that some authors argued that capitalism did not have a future in Russia because it demanded foreign markets for development, but these were closed to inferior Russian products. Tugan-Baranovskii argues against this view, rather he believes that production itself creates its own markets and hence that additional markets are not required, as long as proportional distribution of new capital between branches of production is observed and as long as domestic purchasing power is not spent overseas.³⁰ In his *Promyshlennyye krizisy v sovremennoy Anglii* of 1894 Tugan-Baranovskii divides economists into two schools as far as their understanding of markets is concerned. Say, Ricardo, and Mill thought that general overproduction was not possible, whereas Malthus, Sismondi, and Moffat believed it was.³¹

Rosa Luxemburg joined this debate in 1913 with *The Accumulation of Capital*, which examined the work of V.P. Vorontsov, Nikolay-on, Bulgakov, Tugan-Baranovskii, and others on this question. Luxemburg criticises Tugan-Baranovskii for slavishly copying Marx's scheme of expanded reproduction, and implicitly for assuming a version of Say's law of markets.³² Luxemburg argued against Marx that a closed capitalist economy will break down through its inability to absorb the totality of surplus value which it produces. The point of this section is not to rehearse these debates in detail, but to point out that the phrase 'the market' had very different connotations for Marxists at this time than it did for 'bourgeois' economists. The market was a place where capitalism realised its products, not a mechanism for ensuring efficient production. During NEP, however, this latter conception became more widespread in the USSR and the former declined in usage, as we shall see below.³³

1.9 - INSTITUTIONS

One way to approach the study of economic theory during NEP is to locate it within the prevailing institutional and theoretical discussion structures which existed at this time. Some of the major economic organs which existed during NEP were: Gosplan, the state planning agency; Narkomfin, the People's Commissariat of Finance; VSNKh, the Supreme Council of the National Economy; STO, the Council of Labour and Defence; TsSU, the Central Statistical Administration; and Narkomzem, the People's Commissariat of Land. The development of NEP can thus be seen as the evolving supremacy of certain organs above others. From those listed above this can be seen most clearly in the case of the development of Gosplan and VSNKh at the expense of Narkomfin and the TsSU.

Each organ had its own propaganda arm in the form of a journal. The journal of Gosplan was *Planovoe khozyaistvo*, that of the TsSU *Vestnik statistiki*, that of VSNKh *Sotsialisticheskoe khozyaistvo* (until 1927), that of Narkomfin *Vestnik finansov*, and that of Narkomzem *Puti sel'skogo khozyaistvo*. Since Kondrat'ev's Conuncture Institute was part of Narkomfin, its

journals such as the *Ekonomicheskyy byulleten' Kon'yunkturnogo instituta* can be regarded as being under the Narkomfin wing. Other important journals of this period also had a particular factional slant. The Bukharinist group dominated *Bol'shevik*, *Preobrazhenskii* and the left held *Vestnik kommunisticheskoi akademii*, while Groman and Bazarov held sway over *Ekonomicheskoe obozrenie* even though it was a Gosplan publication. A great many of the theoretical disputes which raged in the 1920s were fought in the pages of these journals, and in this thesis I shall often refer to them.

The president of Gosplan between 1921 and 1930 was Krzhizhanovskii, although Strumilin also played a major role, as did Groman and Bazarov up until towards the end of the 1920s. Kuibyshev was president of VSNKh. Sokol'nikov was People's Commissar for Finance between 1921-1926, although he was replaced by Bryukhanov for the latter part of the decade. Yurovskii was head of the currency section of Narkomfin, and Kondrat'ev played a major role through his Conjunction Institute. To a certain extent all three of these institutions were involved in the process of drafting plans, often supporting opposing methodologies and versions.

Carr & Davies note the conflict which existed between Gosplan and VSNKh on the one hand, and Narkomfin on the other. This conflict developed during the latter part of the 1920s, and the Second Congress of Gosplan in March 1927 provided the occasion for an airing of this conflict.³⁴ Strumilin, as a representative of Gosplan, made a report which was attacked by representatives of Narkomfin and Narkomzem - Kondrat'ev and Makarov. Kondrat'ev published his criticisms as articles in *Puti sel'skogo khozyaistvo* and *Planovoe khozyaistvo*, the latter journal still allowing some degree of disagreement to be publically aired at this time. In September 1927 the opposition platform attacked the second Gosplan draft plan as pessimistic, and thus the planners were under attack from both sides.³⁵ This climate of conflict led to increasing growth rates being assumed in the third Gosplan draft, supported by VSNKh, and in 1928 Kondrat'ev and associates were ejected from the Conjunction Institute of Narkomfin. A campaign against the 'ideology of the

new bourgeoisie' was instituted, and Groman and Bazarov, who had both been part of Gosplan, were linked to Kondrat'ev and so pushed out of official favour.

Until 1925 the budget had been the basis for the plan, but within three years the subordination of the budget to the plan was well advanced.³⁶ Narkomfin argued that the budget revealed planning possibilities, but Gosplan responded that possibilities create the budget. The budgetary powers of Narkomfin were weakened in 1926 by changes in the auditing system, and its control of the economy through the budget gradually ebbed away as the decade progressed.³⁷ The subordination of the financial system to the emerging system of national economic planning required the weakening and final defeat of the financial budget and Narkomfin. Thus another way to see the conflict which took place in the 1920s is through the relative positions of the financial budget and the economic plan.

Another conflict occurred between Gosplan and the TsSU over the role of the national economic balance in the planning process. The TsSU, through Popov, argued that an *ex post* balance was a prerequisite for coordinated planning, which should be delayed until after a satisfactory balance had been prepared. Gosplan proposed to proceed to prepare a coordinated national plan before the balance was available.³⁸ In January 1926 Popov resigned from the TsSU, and at the end of 1929 the TsSU was transformed from a separate government department into the statistical sector of Gosplan.³⁹ Gosplan thus ousted both the TsSU and Narkomfin, a process which signified the triumph of the fantastical over the statistical.

1.10 - NEP AND COMMERCIAL LAW

The question of the nature of commercial law during the NEP period is obviously relevant to an understanding of the types of private enterprise which developed during this period, but may also reveal something about how those who drafted the laws conceived of private enterprise and market forms of economy. In this section I examine a book written by Kantorovich entitled

Chastnaya trgovlya i promyshlennost' v SSSR - po deistvuyushchemu zakonatel'stvu published in 1925.

This work by Kantorovich has the stated aim of gathering together legislative and administrative material relating to private trade and industry for practical purposes and to present this material in a systematic manner.⁴⁰ Thus it was for use by those involved with private business at this time. It begins by noting that in a decree layed down by VTsIK (Vserossiiskii Tsentral'nyi Ispolnitel'nyi Komitet) on 22 May 1921 concerning the basis of private property law of the RSFSR, the following statement is found: it is necessary that property rights (*imushchestvennykh prav*) for citizens of the RSFSR and for foreigners exist in order to establish clear relations between state organs and *ob"edineniya*, and private individuals (*litsa*).⁴¹ Kantorovich thus notes that in principle there exists the possibility of private initiative and private use of capital in the USSR, although in reality with such a wide development of state industry, development of private industry is exceedingly difficult.⁴²

Laws established on 9 March 1923 by SNK decreed the creation of committees of market traders (*komitety rynochnykh torgovtsev*) with the aim of regulating trade on markets. Registration is obligatory for all enterprises, and those which evade registration do not have the right to trade on markets.⁴³ The tasks of such committees include:

- a) establishing rules for trading on markets;
- b) arranging special agreements for comfortable and sanitary market areas;
- c) influencing the actions of the organs of administrative power, such as taxation policy;
- d) presentation of statistical data concerned with market trade.⁴⁴

Trading institutions such as commodity markets are dealt with by a decree of STO dated 23 August 1923. State, cooperative, and private enterprises are allowed to participate in commodity markets (*birzhi*), and the significance of such institutions is to reveal the relation between supply and demand.⁴⁵ Local organs for the regulation of trade include Local Economic Conferences

(EKOSO), the local organs of Komvnutorg, Gubfinotdely, Gubsovnarkhozy, and the militia.⁴⁶

According to a decree of Sovnarkom dated 20 October 1922 the STO together with Narkomfin are to organise stock exchanges (*fondovie birzh*) for trading foreign currency, banknotes, state paper, shares, and precious metals.⁴⁷ With the existence of such markets come market brokers (*birzhevie maklera*), the activities of which are defined by a decree of Komvnutorg on 16 February 1923. In these instructions the maximum brokerage fee is fixed by the Market Committees, and the broker does not have the right to carry out trading operations under another name.⁴⁸ The lease of state enterprises is governed by local Sovnarkhozy, but this control has the character of observation only, and does not give the right to interrupt normal work unless illegal operations are suspected.⁴⁹ Leasing of private property from one person or organisation to another is also allowed, and in such cases forms of payment can legitimately range through money, services, a portion of the product, and other forms of payment.⁵⁰

The rules governing joint-stock companies (*aktsionernye obshchestva*) are outlined by Kantorovich as follows. They must establish a constitution in which is specified the amount of basic capital and how it is divided into a definite number of parts (shares). This constitution must be signed by not less than five constituents, and must also show the aims and operations of the society, the organs of management of the society, and the voting rights of shareholders (civil code 324).⁵¹ If three months after the publication of the constitution less than one quarter of basic capital has been gathered, then the society is declared insolvent (civil code 327).⁵² Each joint-stock society must hold two general meetings of stockholders in a year - a preliminary and a constituent meeting (civil code 332). Decisions relating to changing the constitution, increasing or decreasing share capital, the issue of bonds, or company liquidation can only be taken on a majority of two-thirds of voters, and changes in the aims of the society by four-fifths majority (civil code 353).⁵³ The basic capital of such a society cannot be lower than 100,000 gold rubles, and the nominal share price cannot be lower than 100 gold rubles.⁵⁴ When

shares are issued information as to the quantity being issued, the price, and the valuation of company property must be given.

The Committee for Concessions and Joint-stock companies has the right, if deemed necessary, to carry out an investigation into the activities of the company in question, checking the inventory and the valuations given.⁵⁵ Every share in such a company gives the owner the right to participate in general assemblies and the right to a vote, as well as the right to receive dividends. Joint-stock companies must publish accounts and balances according to their constitutions, and they have the right to issue bonds (*obligatsii*). Liquidation of such companies should be referred to the liquidations committee, and distribution of the funds obtained from liquidation cannot proceed to shareholders until the demands of creditors have been satisfied.⁵⁶

In general it can be noted that such a legal framework for the operation of private companies does not differ greatly from the type of legal code adopted in 'capitalist' countries. However, Owen notes that while corporations were allowed to exist during NEP by decree of 10 April 1923, there were certain financial limits and, as under the Tsar, special permission was required for the creation of new corporations.⁵⁷ He also notes that permission of the STO was required if joint-stock companies with capitalisation greater than one million rubles were to be created, and that VSNKh held discretionary power to authorise syndicates and other types of combinations. In general Owen concludes that there was a strong element of continuity in state policy towards private enterprises in both Tsarist and NEP times.

It is also clearly questionable how far the NEP commercial code was implemented in practice, and how far those wishing to embark on such activities could trust the state authorities to follow their code or not to change it to allow greater state control. Such a code would evidently be ambiguous at a time when state organs like Gosplan were creating plans to control the economy centrally and through planning decrees. Although the legal framework for private companies may have existed to some degree in NEP, the trust which entrepreneurs felt they could

have in this code may have been rather small. It is not surprising then that attempts to encourage private companies, for example the foreign concessions policy, were regarded as somewhat of a failure.

It is worth stressing that although NEP legislation allowed greater state control over commercial activity, the detail of the law is remarkably similar to non-Soviet commercial law. It is clear from this that the conceptions of the market and of private economic activity in terms of technical content (not of normative evaluation) embodied within this legislation is identical with conventional non-Marxist notions.

In a collection of legal codes called *Novoe zakonodatel'stvo v oblast promyshlennosti i trgovli* published by the juridical section of VSNKh in 1922 there is a code entitled 'Polozhenie o komitite tsen' adopted on 5 August 1921. This code sets out the rules and functions of Price Committees as follows. Price Committees are the highest inter-departmental organs for establishing prices, and are charged with the following functions:

- a) to establish wholesale, and in some cases retail prices of all goods issued by state institutions and enterprises;
- b) to establish limits on extra charges of monopoly goods;
- c) to establish fixed purchase prices for state procurement.⁵⁸

The decree also states that the Price Committee should periodically review prices and introduce changes evoked either by changes in the purchasing power of money or by changes in the conditions of production and in market conjuncture. The decisions of the Price Committee can be appealed against by the People's Commissariats, and it is composed by the People's Commissariat of Finance of representatives of VSNKh, TsSU, STO, Foreign Trade organs, and VTsSPS.

This decree shows that markets were free during NEP only to a limited extent. However, a passage following the above decree notes that in a separate decree of 27 October 1921 the realisation of products is permitted at market prices.⁵⁹ Thus there is a contradiction between decrees, and it may have been the case that the decree outlined above was not followed in all cases and at all times. Even so, it shows that the key variable

which free markets depend upon was being regulated right from the start of NEP by state organs created especially for this purpose.

1.11 - CONCLUSION

I will conclude the theoretical introduction by repeating the basic aims of this thesis and the theoretical elements which are to be traced. In what follows I examine how each theorist conceived of the market and of market economics, and how they thought this related to socialism. To do this I focus on both normative and technical conceptions of the market, and differentiate between internal and external critiques of it. I also analyse how each theorist thought that markets could fit into an economic system by employing a sliding scale of systems from central command to full market. In other parts of this introduction I have given background information in terms of how ideas of the market developed before the 1920s, and also have sketched a little of the institutional and commercial structure of the NEP economy.

NOTES

- ¹ Janos Kornai, *Anti-Equilibrium* (North-Holland, 1971), p.221.
- ² A Pareto-optimum is defined as a position from which it is impossible to improve anyone's welfare without impairing another's, and this optimum relies on the rejection of interpersonal comparisons of utility. Many other types of optima are theoretically conceivable. For a discussion of such optima see the section on Paretian welfare economics in Mark Blaug, *Economic Theory in Retrospect* (Cambridge: CUP, 1985), p.585-608.
- ³ Alfred Marshall, *Principles of Economics* (London: MacMillan, 1938), p.324.
- ⁴ Kornai, *Anti-Equilibrium*, p.226.
- ⁵ Ibid, p.334.
- ⁶ F.A. Hayek, 'The Use of Knowledge in Society' in *Individualism and Economic Order* (RKP, 1949), p.78-83.
- ⁷ *Bol'shaya sovetskaya entsiklopediya* (Moscow, 1955), no.37, p.523.
- ⁸ It is interesting to note that a scholar who set out to investigate the history of the idea of the market concluded that 'the history of economic thought shows a suprisingly small amount of attention given to the idea of market'. See Bernard Barber, 'Absolutization of the Market' in *Markets and Morals* (Washington: Hemisphere, 1977), p.18. Barber suggests that this is so because it may be a comprehensive term for all the component structures and processes which economists examine, rather than a narrow and specific feature which is easily identified.
- ⁹ For an examination of how economists and historians from *perestroika* used NEP for contemporary purposes see Vincent Barnett, 'Recent Soviet writings on economic theory and policy from NEP', *Coexistence* vol.29 no.3, September 1992.
- ¹⁰ George & Shorey, *The Allocation of Resources* (George Allen & Unwin, 1978), p.16-28.
- ¹¹ P.C. Roberts, *Alienation and the Soviet Economy* (Holmes & Meier, 1971), p.49-51.
- ¹² Mark Blaug, *Economic Theory in Retrospect* (Cambridge, 1985), p.618/9. Blaug notes that while spacial economics flourished in the nineteenth century, it did so in almost total isolation from mainstream economics. Perhaps this is one reason that 'the market' has such divergent meanings.
- ¹³ Peter Wiles, *The Political Economy of Communism* (Oxford, 1964), p.67-71.
- ¹⁴ Brus & Laski, *From Marx to the Market* (Oxford: Clarendon, 1989), p.105-131.
- ¹⁵ Brus's 'model of a planned economy with built-in market mechanism' outlined in *The Market in a Socialist Economy* of 1972 can be placed somewhere between CM and CWE. Brus & Laski's 'market socialism proper' outlined in *From Marx to the Market* of 1989 fits between RM and FM. Nove's 'feasible socialism' given in *The Economics of Feasible Socialism* of 1983 can be fitted between RM and CM.
- ¹⁶ Don Lavoie, 'The Cognitive Function of Markets in Market Socialism' in *Annals of the American Academy of Political and Social Science*, January 1990, p.72-79.
- ¹⁷ See Abraham Rotstein, 'Karl Polanyi's Concept of Non-market Trade' in *The Journal of Economic History*, vol.30 no.4,

- December 1970, p.117-126.
- 18 Andrew Schotter, *Free Market Economics* (Oxford: Blackwell, 1990), p.17.
 - 19 Shand, *Free Market Morality* (Routledge, 1990), p.57.
 - 20 For an example of Marx's critique of society as reciprocal exchange see his 'Comments on James Mill', in *Collected Works* volume three (London: Lawrence & Wishart, 1975), p.217. Here Marx criticises economists for establishing the estranged form of social commerce as the fundamental form appropriate to the nature of man.
 - 21 Karl Marx, *Grundrisse* (Penguin, 1973), p.280/1.
 - 22 Jacques Gouverneur, *Contemporary Capitalism and Marxist Economics* (Oxford: Robertson, 1983), p.35-45. Note that this model assumes homogeneous commodities.
 - 23 Marx, *Grundrisse*, p.138.
 - 24 Ibid, p.226.
 - 25 Marx, *Capital* volume III (Penguin, 1981), p.290/1.
 - 26 Ibid, p.133. Marx argues that if the rate of surplus value is constant, the rate of profit falls as the organic composition of capital rises ($p = s'[1 - q]$). This is the law of the tendential fall in the rate of profit.
 - 27 Taken from Haverman & Knopt, *The Market System* (Wiley, 1966), p.112-142. Similar accounts are given by Eckert & Leftwich, *The Price System and Resource Allocation* (Dryden, 1988), p.43-55, and Stonier and Hague, *A Textbook of Economic Theory* (Longman, 1980), p.142-188.
 - 28 V.I. Lenin, *Collected Works* (London: Lawrence & Wishart, 1960), vol.1, p.79.
 - 29 Ibid, p.99/100.
 - 30 M.I. Tugan-Baranovskii, 'Kapitalizm" i rynok"', *Mir bozhii* 1898 no.6, p.118 & p.120.
 - 31 Tugan-Baranovskii, *Promyshlennye krizisy v sovremennoi Anglii* (St Petersburg, 1894), p.375-387.
 - 32 Rosa Luxemburg, *The Accumulation of Capital* (London: RKP, 1951), p.323. For an analysis of Marx's views on Say's Law see Bernice Shoul, 'Karl Marx and Say's Law', *Quarterly Journal of Economics*, vol.71 November 1957, p.611-629. Shoul distinguishes four meanings of Say's Law as follows:
 1) supply creates its own demand, hence a general glut is impossible; 2) money is a veil and plays no independent role in goods exchange; 3) in cases of partial overproduction equilibrium is restored by the price mechanism and the mobility of capital; 4) because aggregate demand and supply are necessarily equal output can increase indefinitely and capital accumulation can proceed without limit.
 Tugan-Baranovskii's argument is closest to the first meaning as outlined by Shoul.
 - 33 The question of market capacity was still discussed during NEP. For an example see 'Emkost' promyshlennogo rynka v SSSR' by M. Barengol'ts in *Planovoe khozyaistvo* no.7 1928, p.325-348. However, abstract reasoning about the fate of capitalism in general has been replaced by a detailed analysis of interindustry consumption of rural produce in the USSR.
 - 34 E.H. Carr & R.W. Davies, *Foundations of a Planned Economy* (MacMillan, 1969), vol.1 no.2, p.857.
 - 35 Ibid, p.865.
 - 36 Ibid, p.720.
 - 37 Ibid, p.724.

- 38 S.G. Wheatcroft & R.W. Davies ed., *Materials for a Balance of the Soviet National Economy 1928-30* (Cambridge: CUP, 1985), p.37.
- 39 Ibid, p.39.
- 40 Kantorovich, *Chastnaya trgovlya i promyshlennost' v SSSR - po deistvuyushchemu zakonodatel'stvu* (Moscow, 1925), p.8.
- 41 Ibid, p.12.
- 42 Ibid, p.14.
- 43 Ibid, p.43.
- 44 Ibid, p.70/71.
- 45 Ibid, p.63.
- 46 Ibid, p.76. By April 1924 the number of goods exchanges in the USSR was 101. See Segal & Santalov, *Commercial Year-Book of the Soviet Union* (London: George Allen & Unwin, 1925), p.199. For a general empirical account of markets and those who traded in them during NEP see Alan Ball, *Russia's Last Capitalists: the Nepmen, 1921-1929* (Berkeley: University of California, 1987), p.85-108.
- 47 Kantorovich, *Chastnaya trgovlya i promyshlennost' v SSSR*, p.117.
- 48 Ibid, p.119-121.
- 49 Ibid, p.171.
- 50 Ibid, p.180.
- 51 Ibid, p.256/7.
- 52 Ibid, p.258.
- 53 Ibid, p.266.
- 54 Ibid, p.257.
- 55 Ibid, p.262.
- 56 Ibid, p.271.
- 57 Thomas Owen, *The Corporation Under Russian Law: 1800-1917* (Cambridge, 1991), p.191.
- 58 *Novoe zakonodatel'stvo v oblast promyshlennosti i trgovli* (Moscow, 1922), p.109.
- 59 Ibid, p.110.

CHAPTER TWO - BUKHARIN AND THE BUKHARINITES

2.1 - INTRODUCTION

Nikolai Ivanovich Bukharin (1888-1938) joined the Bolshevik party in 1906. After being arrested in Moscow in 1911 he escaped abroad and settled in Vienna, where he studied the Austrian school of economists and wrote a critique of them analysed below. Bukharin returned to Moscow in May 1917 and was elected to the party's Central Committee three months before the October revolution. He edited *Pravda* from December 1917 to April 1929. In 1918 Bukharin placed himself on the left of the party over Brest-Litovsk, but after 1921 he changed his position noticeably and became a leading figure on the right. In 1937 he was expelled from the party and a year later he was sentenced to death for treason.

Bukharin's full-length study of 'bourgeois' economic theory entitled *Politicheskaya ekonomiya rant'e* was completed in 1914. This work is of great interest because it shows how a Marxist untouched by experiences of controlling a state perceived the theory in question. In his introduction to this work Bukharin writes that as research for this book he attended lectures by Eugen von Bohm-Bawerk at the University of Vienna, studied the literature of the Austrian and the Lausanne schools, made an exhaustive study of the Anglo-American economists, and traced the theory of marginal utility to its roots. Although Bukharin had studied many economists during this research he chose as his primary opponent Bohm-Bawerk, the reasons for which he does not explicitly elucidate, although he does say that 'it is well known that the most powerful opponent of Marxism is the Austrian school'.¹ Since Bohm-Bawerk is the key 'bourgeois' economist which Bukharin tackles it is worth exploring his work before exploration of Bukharin's critique begins.

2.2 - BOHM-BAWERK'S VIEW OF THE MARKET

One of Bohm-Bawerk's major works was entitled *The Positive Theory of Capital* and was published in 1891. Using the

relatively new marginal utility doctrine he claimed to demonstrate 'how prices are determined under the assumption that exchange takes place exclusively from the motive of pursuing immediate economic advantage'.² One of the main features of this work was the method of market price determination which it utilized, and Bohm-Bawerk's approach directly contradicted Marx's version of the labour-time theory.

Bohm-Bawerk gave a number of different cases of price formation. In isolated exchange price is determined somewhere between the subjective valuation of the commodity by the buyer as upper limit and the subjective valuation by the seller as the lower limit.³ In two-sided competition the market price is determined within a latitude of which the upper limit is constituted by the valuation of the last buyer who actually exchanges (the last buyer) and that of the most capable seller excluded (the first excluded seller), and the lower limit by the valuation of the least capable seller who actually effects a sale (the last seller) and that of the most capable buyer excluded (the first excluded buyer).⁴ Bohm-Bawerk summed this up in his Law of Price: the market price is limited and determined by the subjective valuations of the two marginal pairs. He also remarks that the 'law of supply and demand' is a looser formulation of the Law of Price, since the Law of Price results in the quantitative balance of supply and demand. The example Bohm-Bawerk gives is as follows:

BUYERS		SELLERS	
A1	values at £30	B1	values at £10
A2	values at £28	B2	values at £11
A3	values at £26	B3	values at £15
A4	values at £24	B4	values at £17
A5	values at £22	B5	values at £20
A6	values at £21	B6	values at £21.10s
A7	values at £20	B7	values at £25
A8	values at £18	B8	values at £26
A9	values at £17		
A10	values at £15		

The degree of capacity for exchange is given from A1 to A5 and from B1 to B5. In this example the market price would be determined within the upper limit A5/B6, and the lower limit B5/A6. Since in every case it is the narrower limit that

decides, the market price would be between £21 and £21.10s.⁵ However, Bohm-Bawerk is 'perfectly aware that in practical life this law does not exactly obtain', since other motives apart from pure economic advantage, eg custom, vanity, intervention etc, may also be involved.⁶ He is also aware that this type of price determination may not be that common. Fixed prices - ie where 'trying the market' is dispensed with and sellers undertake to hit the equilibrium price at one throw - are common in shops.⁷

2.3 - BUKHARIN'S CRITIQUE OF BOHM-BAWERK

In his *Politicheskaya ekonomiya rant'e* Bukharin examines Bohm-Bawerk's account of price formation given above, and contrasts it to Marx's theory of price formation. Bukharin writes that, in contradistinction to Bohm-Bawerk, 'Marx's theory of value is objective, ie Marx's theory is a social law of prices'.⁸ Thus according to Bukharin Marx's theory of value is supposed to be a theory of price formation. It is worth noting also that for Bukharin a theoretical law of political economy is a causal relation, for example if A, B and C, then D.⁹

Bukharin's main criticism of Bohm-Bawerk's account of price formation is that it involves circular reasoning. Bohm-Bawerk argues that buyers and sellers subjectively form prices which they believe a commodity is worth, and then the resultant of their subjective valuations, based on marginal pair evaluations, forms the price. Bukharin asks: where do these price evaluations come from? What determines them? In fact, Bukharin claims, they come from prices of commodities already given on the market, and thus Bohm-Bawerk's theory employs circular reasoning and fails to explain price. A buyer evaluates a commodity x to be worth £10 because he saw a similar item for sale two weeks ago for £10.50, and thus all that Bohm-Bawerk's theory shows is that price is determined by price - a vacuous tautology. Bukharin calls Bohm-Bawerk's theory of price formation - haggling between upper and lower limits - an amplified formulation of the old law of supply and demand.¹⁰ This is worth keeping in mind when the debates of the 1920s are examined and the phrase 'law of supply

and demand' is used. At least in Bukharin's case it can safely be said that Bohm-Bawerk's exposition is a good account of what Bukharin meant by it.¹¹

In this work it is clear that Bukharin is concerned mainly to refute the subjective theory of value, and less with what he calls the 'formal aspect' of the mechanism of competition, ie marginal pair determination.¹² In fact Bukharin's argument against Bohm-Bawerk's marginal pair model is that it is based upon an untenable theory of value, not that its internal mechanics are false. Bukharin writes that Bohm-Bawerk presents six factors determining the level of prices in accordance with the marginal pair model. They are:

- 1) the number of specific demands for the commodity;
- 2) the absolute magnitude of the subjective value of the commodity for the prospective purchaser;
- 3) the absolute magnitude of the subjective value of the price money (sic) for the prospective purchaser;
- 4) the number of specimens of the commodity available;
- 5) the absolute magnitude of the subjective value of the commodity for the seller;
- 6) the absolute magnitude of the subjective value of the purchase money for the seller.¹³

In all six cases Bukharin's argument is that Bohm-Bawerk is involved with 'a vicious circle, a continuous logical fallacy', which demonstrates the 'complete barrenness of modern bourgeois theory'.¹⁴ Bukharin does not offer any other type of criticism in respect to this particular model.

Although Bukharin is perhaps best known as an economist, he does not offer any alternative model of price formation which is presented in any detail. In *Politicheskaya ekonomiya rant'e* he is concerned with refuting the Austrian school, not with presenting his own model. That Bukharin believed the labour theory of value correctly explained prices is shown by the following passage:

It is an empirical observation constituting the basis of the labour value theory, that prices fall as the productivity of labour increases.¹⁵

Unfortunately Bukharin does not expand on this proposition either theoretically or empirically, but it shows that he believed that the labour value theory must satisfactorily explain market prices, or fail in its task as the basis of political economy.

Bukharin's *Teoriya istoricheskogo materializma: populyarnyi uchebnik marksistskoi sotsiologii* first appeared in print in December 1921.¹⁶ Thus it was written just after the introduction of NEP. As in the earlier *Politicheskaya ekonomiya rant'e* Bukharin in this later work is concerned to propose causal explanations of phenomena. According to him a law of cause and effect is a 'necessary, inevitable, invariable, and universal relation between phenomena'.¹⁷ In a chapter entitled 'determinism and indeterminism' (where Bukharin clearly supports the former) he presents social phenomena as being the resultant of individual phenomena.¹⁸ An example he uses is that of price. Buyers and sellers go to market:

Each of the sellers and buyers is aiming at a certain object: each of them makes a certain estimate of goods and money, ponders, calculates, scratches and bites. The result of all this commotion in the market is the market price. This price may not represent the idea of any individual buyer or seller; it is a social phenomenon arising as a result of the struggle of various wills.¹⁹

This formulation seems very close to Bohm-Bawerk's model where market price is a resultant of the subjective valuations of the buyers and sellers involved. Bukharin even goes so far as to propose the vicious circle which he was so critical of in 1914. Assume that a pound of carrots costs so much on the market:

It is obvious that both the new purchasers and the new sellers already have had this price in mind in advance, that they have already been approximately assuming this price in their reckonings...²⁰

Thus a social phenomenon - price - has a determining influence on the individual phenomena - offers and demands. There is no bitter polemical tone when Bukharin proposes this idea as there was in 1914. Bukharin seems to be taking a solution to the

circular reasoning criticism in which previous prices do exert an influence on prices now, although the estimates of those involved (Bohm-Bawerk's subjective valuations) and the 'struggle of various wills' (marginal pair determination) also play a role. If my interpretation is correct, why is there such a contradiction in Bukharin's thought?

There are a number of possible reasons. Bukharin could simply have changed his mind in the period between 1914 and 1921. Although this is possible, I think it unlikely since Bukharin does not explicitly say that this has happened. More likely in my opinion is that he simply did not realise that he was contradicting himself when he wrote *Teoriya istoricheskogo materializma*. Price determination as he presents it in 1921 feels intuitively correct when it is divorced from any of the 'theoretical enemies' of Marxism such as the Austrian school, so much so that he does not think twice about it. Perhaps if someone pointed out the connection to Bohm-Bawerk he would rethink. It is interesting to note that in the 1927 preface to the American edition of *Politicheskaya ekonomiya rant'e* Bukharin wrote that 'our opinion is still perfectly valid from the theoretical standpoint'.²¹ Either he had changed his mind a second time and returned to his 1914 position, or (more likely) he simply failed to see the problem.

Another economic 'school' which Bukharin examines in *Politicheskaya ekonomiya rant'e* is the Anglo-American current, the chief proponent of which Bukharin takes to be John Bates Clark. Clark gets favourable treatment by Bukharin compared to Bohm-Bawerk, since he represents the American bourgeoisie, a bourgeoisie which is, according to Bukharin, more progressive than the European variety. Clark's major work which Bukharin uses is *The Distribution of Wealth* of 1908, examination of which reveals some interesting points. Clark writes:

We have spoken of the movement of labour and capital as though it were spontaneous, as though labour went of its own accord from a place where its productive power was small to a place where that power was greater. But it is, in reality, entrepreneurs who do the moving, and it is competition that makes them do it.²²

For Clark the entrepreneur's function was a coordinating process, the coordination of labour and of capital, and the reward for performing this function successfully was called profit. Some have argued that the picture of the 'industrial capitalist' which Marx painted in *Capital* neglected the active role of coordinating labour and capital, as if the correct utilisation of these factors occurred naturally. It follows from this that Marx also rejected the idea that profit could be the reward for this coordinating function. Other conceptions of the source of the entrepreneur's profit have been proposed by economists, for example as a reward for undertaking un-insurable risk, but, it is argued, Marx neglected this side of capitalism completely and hence does not mention the idea of the entrepreneur.

Returning to Bukharin it is clear that in *Politicheskaya ekonomiya rant'e* he has 'picked up' the idea of the entrepreneur, although in an interesting and revealing way. One of the main thrusts of this work was to show how a new sub-class, the *rentier* class, had come into existence in the decadent monopolistic phase of decaying capitalism, a group which lived on income from securities and whose economic activity was predominantly in the realm of the circulation of financial paper.²³ According to Bukharin the more highly developed the credit system becomes, the greater is the ease of 'growing fat' and becoming 'inactive' in this manner:

The capitalist system itself takes care of this matter; by making the organisational functioning of a large number of entrepreneurs (*predprinimatelei*) socially superfluous...These elements are secreted to the surface of economic life like the "circles of fat on the surface of the soup"...²⁴

Thus Bukharin seems to be implying that although in classical capitalism the entrepreneur had an important function, as capitalism decays in its monopoly phase this function withers. Bukharin does not explain in any detail how monopoly capitalism performs the entrepreneurial function.

By relegating the entrepreneur to the past Bukharin can have his cake and eat it. By accepting that there was such a

function, an act which could be seen as an implicit criticism of Marx, Bukharin can say that he has a superior theory, and by relegating this to the past he can also dismiss any criticism which might appear saying that Bolsheviks neglect the entrepreneurial function. According to Bukharin this function has now been superseded in capitalism through the credit system, a system which the Bolsheviks later placed centre stage in their plans for constructing socialism.

Although the notion of the entrepreneur is only a secondary feature of *Politicheskaya ekonomiya rant'e*, Bukharin's use and acceptance of this idea reveals some interesting points. Firstly, the one aim of this work was to refute the subjective value theory of the Austrian school, and Bukharin uses every possible type of criticism to do this, even if some elements fit rather uneasily with *Capital*. Secondly, Bukharin's economic theory of this time was overwhelmingly negative, ie it was concerned to knock down any new theory which seemed contrary to Marx, and thus to preserve the doctrinal heritage of the Marxist movement in a pure form. It was not concerned with either formulating new economic theories, nor was it concerned with providing an economic rationale for socialism, since 'cookshops of the future' were petty-bourgeois in spirit. Faith in Marxist theory was the quality which most Bolsheviks, Bukharin included, possessed in large quantities prior to 1917.

The question which dominated the economic debates of the 1920s was how to industrialise the Soviet economy. The problem of the uneven development of industrial production around the world was first tackled by Bukharin in his *Mirovoe khozyaistvo i imperialism* of 1915. To explain this uneven development Bukharin uses a combination of the factor endowment approach with the social development approach. There exists two kinds of prerequisites for an international division of labour: natural prerequisites, conditioned by the difference in the natural environment, and social prerequisites, conditional by differences in culture, economic structure, and the development of the productive forces.²⁵ Bukharin gives more weight to the latter:

Important as the natural differences in the conditions of production may be, they recede more and more into the background compared to differences that are the outcome of the uneven development of productive forces in the various countries.²⁶

In this general thesis Bukharin does not disagree greatly with modern work on the shaping of comparative advantage.²⁷ In relation to economic development the major dividing line, according to Bukharin, was between industrial and agrarian countries. The former imported agrarian products and exported industrial goods, while the latter did the reverse.²⁸ This led to entire countries appearing as 'town' while others appeared as 'country'.

Another important element in this work is Bukharin's description of imperialism as an 'epoch of new mercantilism'.²⁹ A general turn to protectionism had occurred, according to Bukharin, from the late 1870s, and this was caused by the monopolistic structure of modern capitalism. Monopoly organisations gathered additional profits through tariffs, which were used in the struggle for markets (dumping).³⁰ Previously tariffs aimed at defending home industry which could not stand competition, but today they are used to defend those industries which are most capable of withstanding competition. 'High protectionism' was the economic policy of the cartels as formulated by the state.³¹

To conclude this section it is clear that Bukharin's notion of market economics prior to 1917, although quite sophisticated compared to many other Bolsheviks, was highly critical but somewhat simplistic. The nature of the critique was both internal and external: Bukharin tried to show that Bohm-Bawerk's theory contained logical errors which destroyed it from inside, as well as arguing that only the labour theory of value could give a satisfactory explanation of price. He also argued that analysis of price formation in pure competition was irrelevant to the current imperialist phase of capitalism. I turn now to Bukharin's work written during NEP to see if any changes can be detected.

2.4 - BUKHARIN AND NEP

Bukharin is perhaps most famous as a Marxist for his strong advocacy of 'the market' during NEP. However, he never explicitly stated that the market was compatible with socialism, or that it would be used in any way after the transition period was completed. He stuck rigidly to the doctrine that socialism required a planned economy. His only criticism of those enthusiastic for planning during the 1920s was that it was far too early to be talking about it now. However, as to the type of planning Bukharin favoured, it is possible to argue that it was a less rigid form than that which was finally adopted. It is also possible to argue that Bukharin's acceptance of the market and the function it performs in an economy should have led him, if he was being intellectually consistent, to reject imperative planning entirely in favour of some use of the market in socialism. The powerful grip which Marxist doctrine had upon his intellect was one factor which must have made such a step extremely difficult. In the sections that follows I outline the above points in more detail.

For the Bukharin of the mid-1920s the key question, the 'Leninist link' to which all else must be subordinate, was the *smychka* between workers and peasants.³² In order to maintain Soviet power the *smychka* had to be preserved at all costs. Thus the question was how to industrialise and how to build socialism while maintaining the *smychka*. NEP was obviously a response to this problem. However, it is important to realise that the policies of NEP had both a political and an economic rationale. If the need to preserve the *smychka* was the political aspect of the argument, then the need to accumulate resources for industrialisation provided the economic basis.

The basic economic argument for the policies of NEP was expounded by Bukharin in his *Kritika ekonomicheskoi platformy oppositsii* of 1926, and it runs as follows. The Left Opposition see the problem as a zero-sum game. The task is to transfer as much of a given amount of resources as is feasible into the hands of the state, and this is to be done by increasing prices of industrial products. However, according to Bukharin they

neglect the central problem of economic life, which is speed of turnover of economic goods. The way to maximise the accumulation fund in the hands of the state is to lower industrial prices, which will increase the speed of turnover and thus increase the profit taken by the state.³³ A smaller percentage profit taken from a growing national product was superior to a larger profit taken from a static or even declining national product.

The scissors crisis of 1922/3 was central to Bukharin's formulation of this position. He quotes VSNKh figures to the effect that, with a 30% reduction in prices, industrial production had increased by 30%.³⁴ The Opposition neglected the question of the capacity of the peasant market (*emkost rynka*), ie the question of effective demand. Thus according to Bukharin lowering industrial prices would both increase the accumulation fund and help to preserve the *smychka* between workers and peasants simultaneously.

In the same work as Bukharin argued for a reduction in industrial prices, he criticised the conception of a plan proposed by Pyatakov. Bukharin claimed that in a 'plan' and the 'planning principle' the Opposition saw a universal solution to all economic problems. Pyatakov had proposed the idea of a plan for industry alone, since a plan to cover the whole national economy was not feasible given the magnitude of the peasant economy. Bukharin responds:

Can an economic plan be constructed without taking taxes into consideration? No. Can taxes be considered without calculating the probable harvest? No. Can a plan be constructed in industry without considering the capacity of the peasant market? No. Can the question of market capacity be posed apart from prices? No.³⁵

Thus an industrial plan cannot be constructed without some sort of plan for agriculture. The connection between the two main branches was fundamental. Bukharin notes that in *Khozyaistvo i tsena* Struve had argued that in any economy there was a basic dualism between the principle of consciousness and the principle of spontaneity. Both principles were obligatory, and thus he excluded the possibility of a generally rationalised economy, ie socialism. Bukharin does not agree that socialism is not

possible, but argues that rationalisation must be seen as a process in which the planning principle grows, ie is not introduced suddenly and comprehensively. Every state intervention represents a penetration of the rational principle in the spontaneous course of economic life.³⁶

The question then arises of how Bukharin saw the elimination of private capital and capitalist elements from the Soviet economy. It was to occur by way of economic displacement:

Private capital is not...chopped off with a single sweep of the revolutionary sword...It is overcome in the process of an economic struggle on the basis of growth in our state institutions and cooperatives; they squeeze out private capital economically...³⁷

Thus Bukharin proposed an economic battle in which those who produced the best quality goods at the lowest prices would be triumphant. He believed that state economy would emerge as victor in this contest. In 'O novoi ekonomicheskoi politike i nashikh zadachakh' published in *Bol'shevik* in 1925 he asked: how are private capitalists squeezed out?:

By means of competition, and economic struggle. If they sell cheaply, we must reach a position where we can sell still more cheaply.³⁸

In this work Bukharin calls Mises 'one of the most learned critics of communism', and he seems to have agreed with him on at least one point. The collapse of productive forces during War Communism occurred, according to Mises, because the communists 'forgot the enormous role of private, individual incentive and private initiative'. Bukharin responds that 'there is no doubt that the system of War Communism...somewhat resembled this caricature'.³⁹ This partial acceptance of Mises may seem to contradict Bukharin's idea that expanded negative reproduction was a necessary feature of the revolutionary period as expounded in *Ekonomika perekhodnogo perioda* of 1920.

The question of individual incentive and initiative was thus seen by Bukharin to be central, and competition between state and private sectors was to be a driving force of the transitional economy. However, when it came to socialism itself

Bukharin, in line with Marxist doctrine, rejected the idea that competition could still occur. In his *Kritika ekonomicheskoi platformy oppozitsii* Bukharin warned against the dangers that monopolistic control of production causes, claiming that 'every monopoly bears within itself a certain conservative principle'.⁴⁰ In capitalism competition was the force that worked against the monopolistic tendency, but since 'in our country there is no competition', what is to be the guarantee against the danger of parasitic decay and stagnation?. Bukharin answers that 'the pressure of the broad masses' will play this role in the USSR, since the party expresses and reflects the needs of the masses.⁴¹

2.5 - THE MARKET IN THE TRANSITION

In this section I will examine how Bukharin thought the market would be utilized in the transition period. In *Put' k sotsializmu i raboche-krest'yanskii soyuz* of 1925 Bukharin gives a good general statement on this question. He writes:

We thought that we would be able to destroy market relations immediately...It has turned out that we are approaching socialism *precisely through* market relations. One could say that market relationships will be destroyed as a result of their own development.⁴²

Bukharin reasoned on the self-negating property of the market as follows. In capitalism it is a general rule that large-scale production drives out small, with the market itself causing the number of competitors to decline. This is happening, and will continue to happen, in the USSR. Since the working class in alliance with the peasantry has taken control of large-scale production, private trade is left with only small-scale production and thus will be ousted by large-scale state industry. As this process unfolds 'the market itself will sooner or later wither away, being replaced by the state-cooperative distribution of everything that is produced'.⁴³ The advantages of large-scale production will become more and more apparant

with steadily growing economies, and benefits will accrue to state economy from the growth of planning.

Parallel with the idea of using the market to reach socialism, Bukharin developed his theory of 'growing into' socialism (*vrastanie v sotsializm*). Such an organic metaphor obviously implied that the process would occur over some period of time and would result in strong links between the constituent elements. The key question this theory answered was how to bring the peasant economy into socialism. In 'O novoi ekonomicheskoi politike i nashikh zadachakh' Bukharin writes:

...if the peasant was drawn into the system of industrial and banking capital through cooperative organisations, then, given our dictatorship and...the nationalisation of the land, the peasant will be able to grow gradually into our system of socialist relations through cooperation.⁴⁴

Using the peasantry's own economic interest, cooperation was to attract the peasant by giving him immediate advantages, for example cheap credit through the state banking system. Or, in the case of a prosperous peasant who wants to accumulate funds, by giving him high interest rates in the state savings bank. Thus the peasant becomes interested in the stability of the state bank and consequently the Soviet regime, and through such economic links the 'growing in' process develops. Bukharin emphasises that this process begins with circulation rather than production, and claims that cooperation in the sphere of circulation will inevitably lead to cooperation in production.

Although the 'growing in' metaphor was used primarily to describe the development of peasant economy, Bukharin used it in other areas too, for example the law of value 'growing into' the law of labour outlays. In fact this process, according to Bukharin, was characteristic of the transition period as a whole, and it is clear that this slow, organic conception of the transition differed to quite a large extent from the conception of 'struggle' favoured by the Left. This approach was in concord with Bukharin's idea that pre-revolution the Bolsheviks stood for civil war, but post-revolution they must stand for civil peace and non-coercive development.

As I have shown Bukharin admitted that his conception of the transition involved using market/capitalist forms and methods of economic management. However, this did not mean that the economy could be described as capitalist:

...despite the existence of the market and capitalist forms...we are already beginning the transition from a type of economy led by profit to one guided by the necessity of satisfying the needs of the masses.⁴⁵

Although the form was capitalist, the content transcended the market. This seems to imply that capitalist and market forms can be used in a socialist manner. Bukharin does not make this point, but I think it follows from his separation of form and content in this way. In my opinion although Bukharin explicitly denied that the market could be used in socialism, the logic of his argument for its use in the transition implicitly makes the case for precisely this combination. Given proletarian state control of the market it could be regulated in a socialist manner, ie in order to satisfy the needs of the masses.

2.6 - THE LAWS OF THE TRANSITION

Bukharin responded to Preobrazhenskii's article on the law of primitive socialist accumulation (examined in chapter three) in a series of *Pravda* articles entitled 'K voprosu o zakonomernostyakh perekhodnogo perioda' of July 1926. Bukharin argued that the law of value was in fact a secondary law, a historically-specific manifestation of the law of proportional labour outlays, or law of labour outlays (*zakon trudovikh zatrat*) for short. This law of labour outlays was a necessary condition for general equilibrium under all historical formations.⁴⁶ In fact, in a footnote to *Novaya ekonomika* Preobrazhenskii had agreed with this point, but neither Bukharin or Preobrazhenskii went into much detail about this most fundamental law. According to Bukharin, Marx had analysed the law of labour outlays under three conditions:

- a) in conditions of 'natural production' of agricultural land;
- b) in an association of 'free people', working with the help of

social means of production according to a plan, where 'socially-planned distribution' of work time establishes the correct proportions between various labour functions and different needs:

c) in a commodity economy, where the law of labour outlays clothes itself fetishistically in the law of value.

Thus for Bukharin the process of establishing socialist planning 'is a process of the metamorphosis of the law of value into the law of labour outlays', a process which involved the defetishisation of the basic social regulator.⁴⁷ Bukharin offered this proposition as his alternative to Preobrazhenskii's idea of the transition period involving a struggle between the law of value and the law of primitive socialist accumulation. Bukharin even used his favourite expression *pererastaniya* to describe his version of the transition period, and argued that:

The process of the law of value growing into the law of labour outlays finds its expression in the fact that by way of a plan prices are formed consciously rather than spontaneously, ie no longer as prices operating from the point of view of 'barometric market fluctuations', and thus turn out differently from how they would spontaneously.⁴⁸

Thus for Bukharin the very fact that prices were in some sense planned showed that the law of value was growing into the law of labour outlays. This differs from Preobrazhenskii, who argued that prices had to be manipulated in a certain direction, ie to favour socialist accumulation, for the transitional logic to be actually operating.

In this article Bukharin also criticised Preobrazhenskii by arguing that for Preobrazhenskii a proletarian plan meant the systematic removal of equilibrium from society, the 'systematic fracture of the socially-necessary proportions between various branches of production', which implied a break in the elementary condition of the existence of society.⁴⁹ However, since according to the Marx of *Capital* volume III prices do not equal values, Bukharin inserts another law into his model of fundamental regulators. In capitalism, according to Bukharin, the law of prices of production (*zakon proizvodstvennikh tsen*) is the mechanism through which the law of value acts.

Spontaneous regulation occurs through the fluctuation of prices around values, through supply and demand, and through competition between producers, but prices do not in fact fluctuate around value, but around prices of production (costs of production plus average profit). Thus in capitalism the law of labour outlays is twice mediated: first through the law of value, and secondly through the law of prices of production.

Bukharin continues, since the process of the replacement of the law of value/law of prices of production by the law of labour outlays is not a struggle as in Preobrazhenskii, but rather a slow 'growing in' process, then when we speak of our economic growth on the basis of market relations, this disproves the thesis concerning the contradictory nature of socialist accumulation and the law of value. In fact, the law of value 'helps us' in this process.⁵⁰ This view clearly contradicts Preobrazhenskii's conception of the transition.

Bukharin had discussed his conception of 'laws' to some extent in his *Ekonomika perekhodnogo perioda* of 1920. According to this work the basic problem of theoretical economics was to discover and (presumably) to analyse the law of equilibrium functioning in a society.⁵¹ Following this approach the law of value was merely the law of equilibrium of an anarchic commodity system.⁵² In this work Bukharin does not make a distinction between the law of value and the law of prices of production, and thus he writes that the law of value is the law of equilibrium of capitalist society, and it functions as a natural law 'like the law of gravity, when your house collapses about your ears':

But just because it is a blind law of social anarchy, it can only be accomplished by means of *continual violations*. And here the violation of equilibrium is the *sine qua non* for the establishment of a new equilibrium...The mechanism behind these oscillations is...competition.⁵³

This reveals a major difference between Bukharin's notion of 'law' and the type of law exemplified by (for example) Newton's laws of motion or the law of gravity. The law of gravity is a 'rigid' law, no fluctuations are possible from it (in theory)

and it is not achieved by way of its continual violation. In this sense Bukharin's analogy with the law of gravity is misleading, since the law of value seems to be an 'elastic' law and could not be called a 'natural' law in the sense that the law of gravity is.⁵⁴

2.7 - BUKHARIN AND PLANNING

It is generally accepted that the high tide of Bukharinism as the officical doctrine of the Bolshevik party was over by 1927/8. At the Fifteenth Party Congress the resolutions were still clothed in Bukharinist language, ie concerning the need to preserve the NEP, but proclamations about the 'planning principle' and the necessity of constructing a general plan took the party beyond the NEP model. Bukharin's writings after this time thus reflect his movement towards opposition.

In his 'Zametki ekonomista' published in *Pravda* on 30 September 1928 Bukharin notes that 'there is a tremendous difference between repairing a bridge and building a new one'.⁵⁵ Bukharin's policy yielded high growth rates in industry at a time when the problem consisted of bringing all existing plant back on-line, but when this had been accomplished and the problem became how to fund the construction of new plant, doubts began to arise as to whether this policy was adequate. The Left was arguing that lack of industrial investment was causing the goods famine, and thus only by increasing (planned) investment could this problem be overcome.

Bukharin claimed in this work that the growth of socialism was accompanied by 'unique crises' which concavely mirror those of capitalism. Capitalism has overproduction and overaccumulation, socialism a goods famine and capital shortage.⁵⁶ According to Bukharin these type of crises occurred because of the 'relative planlessness' of the economy in the transition period, which has its basis in the existence of small farms and market forms of linkage.⁵⁷ Thus the 'relative planning' which was possible in the transition period had a special nature - it was not the completed plan of a developed socialist society, since there are many elements which were

spontaneous and unpredictable - but it must ensure harmony of the basic economic proportions, ie ensure equilibrium. Bukharin warns that major errors in even relative planning could cause a regrouping of class forces extremely unfavourable to the proletariat.

Bukharin stresses in his 'Zametki' that the reproduction schemes in volume II of *Capital* should not be condemned for ignoring the problem of classes. In the transition period classes still exist, but a transitional society represents a certain unity:

For this reason we can also draw up 'schemes of reproduction' for this society...ascertaining by analogy to volume II of *Capital* the conditions for correct coordination of the different spheres of production and consumption...In other words we can establish the conditions of a *moving economic equilibrium*. Essentially this is what it means to work out a *national economic plan* that approaches ever closer to a balance of the entire national economy. Being consciously set out, such a plan simultaneously serves as a prediction (a prognosis) and a directive.⁵⁸

Thus Bukharin proposed that the national economic plan be calculated using a model and a methodology derived in some fashion from volume II of *Capital*. P.I. Popov at TsSU agreed with this idea also, claiming that national economic balances should be compiled using Marx's schemes. In the above passage Bukharin seems to be implying that such a plan is identical with a balance, or at least that the two should somehow merge.

Bukharin discusses the reproduction schemes of Marx in his *Imperializm i nakoplenie kapitala* of 1924, and is concerned to show the algebraic condition for equilibrium of both simple commodity production and capitalism. The equation for equilibrium which Bukharin gives in the latter case is:

$$v_1 + a_1 + B_{v1} = c_2 + B_{c2} \quad [1]$$

where a_1 is that part of surplus value which serves for the personal consumption of capitalists (I), B_{v1} is that part of surplus value which is turned into variable capital (I), B_{c2} is that part of surplus value which is accumulated as constant

capital (II), and v_1 and c_2 represent variable (I) and constant (II) capital respectively.⁵⁹ Of course this equation could not be used in its present form for establishing equilibrium conditions, since categories such as 'personal consumption of the capitalists' no longer correspond to the structure of the transitional economy. Nevertheless, this illustrates the type of equation Bukharin thought could be used for this purpose, and this also shows that the criteria of equilibrium was fundamental to Bukharin's understanding of planning.

The fact that Bukharin writes that such a plan would serve simultaneously as a prediction and a directive indicates that he favoured a 'genetic' approach to planning. A plan as simply a list of majestic directives with no base in reality would serve no useful purpose. Bukharin reminds the reader that in his debate with the Trotskyists he had argued against overestimating the planning principle, and had stressed that planning could only be relative in nature at this time.⁶⁰

In 'Teoriya "organizovannoi" bezkhozyaistvennosti' published in *Pravda* on 30 June 1929 Bukharin launches an even clearer attack on the 'totalist' conception of planning which was then gaining popularity. While discussing H. Bente's *Organisierte Unwirtschaftlichkeit*, subtitled 'economic forms of a bureaucratised economy and its transformation in the epoch of capitalist collective economy', Bukharin criticises 'teleological' planning and the bureaucratisation of the planning process. Bente argued that a transition to 'collective economy' was a characteristic trend of the day. But organisational and economic rationality do not necessarily coincide, since the essence of organised economic disorder is that the organisation links, the means of planning, become ends in themselves. When leading economic levels of responsibility are separated from the market, the pressure of the market 'loses its primary force and does not make corrections when they are needed'.⁶¹ When monopolies have exclusive control over the market there is no compulsory incentive for economy since the price lever has been blunted, and ossification and bureaucratism inevitably follow.

Bukharin, after presenting Bente's theses, writes that he has a 'quaint entanglement of correct and original positions with gaping apologetic rubbish'.⁶² However, Bukharin notes that those on centralisation and bureaucratisation are valid, and writes that the Soviet reader will be 'struck by the formal similarity' between Bente's ideas and the Soviet agenda.⁶³ Thus Bukharin agrees with Bente that planning has a tendency towards bureaucratisation, which means economic inefficiency due to a lack of market discipline. Obviously Bukharin is calling for the partial utilization of the market as a mechanism for ensuring efficiency in production. However, Bukharin also criticises Bente for presenting price as the 'alpha and omega' of economic rationality. Complete organisation, according to both Bente and Bukharin, eliminates the category of price, but Bente does not propose a replacement. Bukharin claims that only one measure could be proposed, and that is human labour.⁶⁴

During Stalin's rise to power in the Bolshevik party and the subsequent programme of collectivisation Bukharin was fatally weakened as a political force. However, he kept working theoretically during the early thirties, and much of this work was connected with the question of the nature of scientific planning. Clearly, having to tow the Stalin line on planning makes this work dubious as a source of Bukharin's real views. In 'O planirovanii nauchno-issledovatel'skoi raboti' of 1931 Bukharin contrasts the anarchic and spontaneous methods of organisation of science under capitalism with the planned methods of organisation endemic to socialism.⁶⁵ Bukharin also notes, perhaps with a hint of irony, that in a socialist economy the necessary scientific cadres require such qualifications - scientific, technical, and organisational - which were unknown to capitalism.⁶⁶ All scientific-investigative work should be directed towards concrete planning problems, and the plan itself should not be a catalogue of problems, but a system of 'organic connections' between the constituent parts.⁶⁷ This reference to the organic nature of planning is perhaps the strongest language Bukharin dared to use at this time.

As I noted in chapter one traditionally the question of 'the market' in Marxist theory was connected with Marxist

theories of crisis, and Bukharin entered this debate in the 1920s with his *Imperializm i nakoplenie kapitala*, a response to Rosa Luxemburg's critique of her own *The Accumulation of Capital* of 1913. Luxemburg had argued that capitalism requires a 'third market' outside its own boundaries in order to successfully realise the surplus-value contained within the products it produces. If such a 'third market' was not found then capitalism could not successfully reproduce itself and was destined to collapse. Thus 'the market' in this discussion was conceived as the place where products are exchanged for money, ie the C - M part of the capitalist process.

Bukharin disagreed with Luxemburg's reasoning to the effect that general overproduction is always present within the capitalist process. He also disagreed with the version of Say's Law which says that a general overproduction is impossible. Instead he argued that the Marxist position was that general overproduction was sometimes unavoidable.⁶⁸ The cause of crisis, according to Bukharin, was both disproportion between individual branches of production and, more importantly, disproportion between production and consumption. He writes:

...where is the planlessness of the [capitalist] economy, its anarchy, expressed? In the fact that there is no proportionality between the individual branches of production, and the scale of production and the scale of personal consumption.⁶⁹

However, it is important to realise that this argument was not confined to abstract musings about pure capitalism. If a planless economy does not have proportionality, then clearly a planned economy must have it. But since the NEP economy was not a planned economy, rather a mixed type, then *a fortiori* proportionality must be ensured if crises are to be avoided.

Continuing his discussion of planning Bukharin quotes a passage from a work on crises by Tugan-Baranovskii:

If production was organised according to a plan, the market would possess a complete knowledge of demand, and the power to make a proportioned division of production...⁷⁰

Bukharin agrees with this statement, but does not say how such a 'complete knowledge of demand' will be obtained. Other features of a socialist economy according to Bukharin are that the share of production of means of production will increase faster than under capitalism, and that a correct proportion between workers' means of consumption and the total social product will be obtained.⁷¹ The search for proportionality and equilibrium was one of the most important features of the early attempts at planning in the 1920s.

In this section on Bukharin and planning I have demonstrated that Bukharin conceived of planning in the 1920s as being 'genetic' in nature. This means that it should be based on market possibilities and forecasts of market equilibrium.⁷² According to Bukharin planning should be introduced gradually into the Soviet economy, and for a period of time should work alongside the market. This shows that he did not conceive of the market and planning to be total opposites.

2.8 - THE BUKHARINITES

Since Bukharin was such a major figure in the Bolshevik party he attracted many supporters, some of whom form what has been described as a Bukharin 'school' of theoreticians who were dedicated to expounding Bukharinist policy. This 'school' wrote on all topics of relevance, from literature to science policy, as well as economic theory. Their rise to positions of prominence was linked to Bukharin's position within the party, and thus when Bukharin fell from favour they also lost their influence. However, at the peak of their power - the mid 1920s - they were extremely influential, as they controlled major party organs such as *Pravda* and *Bol'shevik*. Members of this school included A. Aikhenval'd, A.I. Stetskii, A. Slepko, E. Gol'denberg, E. Tseitlin, V.N. and A.N. Slepko, D.P. and G.P. Maretskii, D.P. Rozit, and A.D. Zaitsev.⁷³

In 1928 one of the Bukharin 'school', A. Aikhenval'd, produced a textbook on economics entitled *Sovetskaya ekonomika* which covered areas of economic theory and policy from a generally Bukharinist position. This book went through five

editions totalling 100,000 copies, and thus clearly was of some importance as a textbook.⁷⁴ In work criticising Bukharin and the 'right opportunist school' Aikhenval'd's textbook was sometimes mentioned, and thus was quite well-known.⁷⁵ Aikhenval'd was at least taken by opponents to be a close ally of Bukharin, and Bukharin's short introduction to *Sovetskaya ekonomika* gives it his full endorsement.

This textbook is very interesting from the point of view of characterising the transitional form of economy which Bukharinist policy prescribed. Aikhenval'd claims that the transitional Soviet economy is characterised by the 'unity of plan and market', ie the unity of purchase/sale relations within the leadership of the centre.⁷⁶ The socialist plan is 'expressed in prices', has a 'monetary form', and has a centralised distribution of the general means of production together with a utilisation of the market apparatus.⁷⁷

...our transitional type of planning is *planned market relations*. In our conditions the basic part of the plan - calculation - is monetary in form, ie price calculations...this market form of planning comprises the first special Soviet transitional plan.⁷⁸

However, it is clear that Aikhenval'd saw this type of market planning as being correct only for the transition period, and presumably it would be replaced by full planning in communism. He expands on what he means by a planned market as follows.

Market 'play' in transitional conditions is not only the result of the un-coordinated actions of independent commodity-producers, but also the result of the planned actions of socialist enterprises. Thus the actions of socialist enterprises affect the market conjuncture, and their actions can to some extent determine and regulate this conjuncture. However, even outside of the 'planned' sector the market can be controlled. Since proportionality inside the spontaneous sector depends on its coordination with the planned sector, the key to spontaneous equilibrium lies outside the exclusive authority of spontaneous law and in the sphere of the relation between the basic sectors of the national economy.⁷⁹ This type of plan 'creates economic

equilibrium' through the cognition of spontaneous socio-economic necessity, the result being an 'interpenetration of plan and spontaneity'.⁸⁰

Two basic points come from this. Firstly, that the most important area of planning is the sphere of the relation *between* sectors of the economy. Secondly, that the actions of state enterprises on the market can in themselves control the market to some extent, and thus can be used for planning purposes. However, all planning is calculated on the basis of achieving economic equilibrium.

Aikhenval'd compares the basic sectors of the economy of the Soviet Union with those of England and the USA. He finds that in the USSR the agricultural sector occupies 83% of the population as compared with 26.3% in the USA and 7.8% in England, and industry in the USSR employs 6.8% of the population compared with 34.4% in the USA and 51.5% in England.⁸¹

Aikhenval'd implies that in order to develop the USSR must move closer towards the sort of proportions between industry and agriculture which are characteristic of advanced nations.⁸² He thus implies that this type of macro-planning is of great importance to creating a planned economy in general.

As a Bukharinite Aikhenval'd supports the idea of the law of labour outlays as a law of all economic development.⁸³ In a natural-patriarchal peasant economy distribution of the labour-power of all members of the family regulates the peasant farm. In a commodity economy the mechanism through which the law of labour outlays functions is more complex. On the market independent commodity producers meet, and as a result of market collisions and fluctuations the necessary concordance between branches of production is achieved.⁸⁴ According to Aikhenval'd the law of value means that 'prices are all the time striving to conform to the quantity of social labour which is on average necessary for the production of the commodity in question', and this tendency of commodity prices to gravitate towards values accomplishes labour proportionality in an exchange economy.⁸⁵ If prices are above value, then the law of value functions by forcing these prices down towards the level of value through producing excess commodities. The result of all this is to

create equilibrium. In an exchange economy regulation of labour outlay is thus a spontaneous process which acts independently of the will of people, and socio-economic necessity exists as a force which governs people exogenously.⁸⁶

Aikhenval'd has a sub-heading in his textbook entitled 'the law of labour outlays in conditions of socialism'. According to Aikhenval'd in socialism the centre will link the various producers into a 'union of free people'. A socially-planned distribution of work time regulates the appropriate relation of different aspects of labour with different requirements. The establishment of the necessary proportionality in labour outlays is thus the task of planning, and the plan is composed by 'statistical-economic organs'.⁸⁷ In the transitional economy where plan and market are unified, spontaneous methods of regulation operate in the mass of independent private farms, but planned regulation operates in the leading complex of socialist enterprises. As regards the actual results of the operation of the law of labour outlays Aikhenval'd notes:

It would be incorrect to think that these different forms of the law of labour outlays are simply different ways of achieving the same results; the difference between them lies not only in form, but also in content.⁸⁸

Thus it is clear that he perceived the equilibrium achieved as a result of the law of labour outlays operating in capitalism to be quantitatively and qualitatively different to the equilibrium achieved as a result of its operation in socialism. This shows that the law of labour outlays cannot be in any sense a quantitative law, ie adherence to which results in strict numerical proportion between given variables, and thus that the word 'law' was used by Bukharinists in a very general sense and without any strict quantitative meaning.

It is evident that Aikhenval'd's conception of the transitional plan elaborates on Bukharin's idea of achieving socialism through market relations. As I noted above according to Aikhenval'd the transitional plan must include spontaneous market pressures in its planned proportions, it must cognise and take into account actual economic necessity and the non-

organised pressure of the mass of private owners. These are preconditions for the calculation of a spontaneous plan, and thus the distinctive proportions and tempo of private economic equilibrium must be included in the transitional type of plan.⁸⁹ Aikhenval'd mentions two types of economic calculation - material and market - and both these types must be incorporated into plan calculations. Moving beyond a simple inclusion of market pressure into economic calculation, Aikhenval'd stresses that planning can actually shape this market pressure:

Utilising the 'commanding heights' of the state apparatus - the budget, credit, manoeuvres on various markets - the plan can to a known degree organise spontaneous pressure, can struggle for the strengthening or reduction of one or other anarchic tendency...⁹⁰

Thus monetary and fiscal policy can to some extent regulate the market by market means. The examples given are as follows. The agricultural tax has a huge significance for directing the grain market, and thus the state through this lever can increase or decrease the supply of grain from small private owners. The tariff policy can also regulate production by imposing favourable and unfavourable taxes on various branches of production:

Agricultural measures, cooperative policy, credit to private enterprise etc - all this can be utilised for organising market pressure, for modifying the 'customary' path of development of private enterprise.⁹¹

Customs tariffs are held very low or are waived for such imports as machine equipment, raw materials for industry, and chemicals for agriculture, since these are of great importance for economic development. Those imports which are less essential have high tariffs imposed.⁹² Thus the economic plan works in unison with market levers to regulate market forces in such a way as to achieve the realisation of planned economic proportions.

However, although planning is a major feature of economic development in the transitional economy, Aikhenval'd is clear

that transitional or spontaneous planning only partially corrects the economic irrationality endemic to capitalist production:

The [transitional] plan constructs such an equilibrium which is possible within the current composition of economic forces, which is possible under conditions of known spontaneous pressure, but not such as would be rational *without* such pressure.⁹³

As well as noting the difference between transitional planning and what could be called 'full planning' in terms of rationality, Aikhenval'd notes that socialist enterprises following the transitional plan have a large degree of freedom to manoeuvre in changable market conditions while following the basic line of the plan. This can only mean that the transitional plan does not dictate exactly every product which must be produced, but rather lays down general guidelines which are flexible in the face of changing conjuntural conditions. Another important difference between the transitional plan and 'full planning' is the scope of the regulation involved:

...regulation of production does not occur in all branches of the economy, since all elements of production are connected one with another in a unified chain.⁹⁴

This implies that by regulating some key links in the economic chain the entire economy can be effectively controlled, and thus that the transitional plan would not steer all sections of the economy directly.

Aikhenval'd discusses the role of the law of value in the transitional economy as follows. He notes that in place of a spontaneous logic the transitional economy has a new type of regulation - a planned-spontaneous type.⁹⁵ This mechanism of regulation is a 'close approximation to the law of value', although deviation from its logic also occurs. The 'pure', 'classical' law of value and the spontaneous-value form of regulation cannot exist in the transitional economy, rather a new planned-spontaneous form of regulation occurs which Aikhenval'd implies is a distorted form of the law of value.

This is in harmony with Bukharin's idea that the law of value 'helps' the Bolsheviki to control the economy.

Crises differ in the transitional economy by not being cyclical in nature. What Aikhenval'd calls 'resultant crises' (*ravnodeistvuyushchaya krizisa*) are inevitable in the transitional economy because of the difficulty of calculating spontaneity 'in all its capriciousness', but such crises are not connected with the development of the economy as they are in capitalism, and Aikhenval'd implies that they will wither away as socialism approaches.⁹⁶ Thus resultant crises occur because of the difficulty in accurately predicting market conjuncture. Perhaps the scissors crisis would be regarded as such a crisis. In his 'Zametki ekonomista' Bukharin seems to disagree with Aikhenval'd on this point by implying that goods famines are an endemic feature of the transitional economy. However, Bukharin also claims that the relative nature of planning in the transitional period is the cause of such crises and thus the difference may be a subtle one.⁹⁷

Aikhenval'd lists three types of plan which are constructed for the transitional economy: a general plan (fifteen years), a perspective plan (five years), and control figures (yearly plans). This was totally orthodox at the time. According to Aikhenval'd the general plan is concerned with the type of development of the productive forces which is required to build the technical base for socialism, the perspective plan gives the main links of equilibrium necessary in order to develop along the lines of the genplan, and the control figures give the yearly features of economic development including spontaneous pressure.⁹⁸

In conclusion it is thus clear that Aikhenval'd conceived of transitional planning as being of a flexible kind, the key feature of which was the cognition of market conjuncture and the adaption of this conjuncture to harmonise with the plan. Monetary and fiscal policy would be used to partially regulate various markets so that they would be conducive to fulfilling the plan, and economic equilibrium would be achieved on the basis of the law of labour outlays (with some help from the law of value) through the calculations of central planning organs

such as Gosplan and the Council of Labour and Defence (STO). By implication a fully socialist economy would have no element of market regulation and would be fully planned by such organs. Even though the Bukharin group were the theorists who took the reconsideration of the role of the market to the greatest extent, they did not become exponents of market socialism. However, even though they realised how they had previously been mistaken as regards the role of the market in an economy, they did not attempt to outline possible replacements for its role in a fully planned economy. Rather they repeated the rather worn phrases opposing spontaneity to rationality.

Other members of the Bukharin 'school' such as V.N. Astrov, A.I. Stetskii, A. Slepikov, and E. Gol'denberg expounded similar views to those given above. In a *Bol'shevik* article of 1927 entitled 'Avstro-marksistskaya "sotsializatsiya"' V.N. Astrov criticises the position of Otto Bauer as regards the socialisation of industry. This is interesting because it indicates how much agreement there was between the Bukharin 'school' and the majority of Bolsheviks on many major issues. According to Astrov Bauer demands the socialisation (*obobshchestvleniya*) of industry rather than its statisation (*ogosudarstvleniya*), but Astrov does not agree.⁹⁹ According to Bauer socialisation of large-scale enterprises should occur in accordance with their character, as state, local, or communal enterprises, or should occur under the leadership of autonomous institutions or cooperatives.¹⁰⁰ Astrov disagrees, emphasising that the state must be the controller of socialist industry. Astrov mocks Bauer's idea that owners of expropriated industries should be given compensation for their loss because it is unfair simply to confiscate property, and generally dismisses Bauer's views concerning alternative types of socialist ownership other than state. This article shows that although Bukharinists were prepared to revise doctrine in some specific areas, namely the use of the market in the transition, they did not support a revision of other fundamental tenets of Bolshevism such as state ownership.

In a *Pravda* article of 1925 entitled 'K voprosu o roli nepa' A. Slepikov shows that the views held by Bukharinists

concerning the transition did not apply to the USSR alone.

Slepkov writes:

...in conditions of the victory of the international proletarian revolution the world city will establish a *smychka* with the world country through NEP. In these conditions NEP on an international scale in a world of Soviet Unions would successfully construct socialism, despite the fact that on a world scale the peasantry would be the overwhelming part of the population.¹⁰¹

Bukharin seems to have been the first to point out that although Marxism demanded an international proletarian revolution, on a world scale the peasantry was in fact by far the most numerous class. Bukharin thus concluded that a world NEP would be required in order to bring the world to socialism. This implies that in the transition period exchange between states would be conducted through (regulated) market relations, and that the experience of NEP in the USSR, according to the Bukharinites, had world significance.

In a *Bol'shevik* article of 1924 entitled 'Osnovnye voprosy vnutrennei trgovli' A.I. Stetskii advances another method by which the market can be regulated during NEP. He writes:

...of special significance for supervising (*nablyudeniya*) of the market are the exchanges (*birzhi*), of which there are around one hundred in the Union, since on these is concentrated almost all the wholesale turnover of the country.¹⁰²

These exchanges are not only barometers of market conjuncture, they also allow state organs to cooperate in their activities on the market. State organs must plan their activities on the market in line with the general aims of socialist construction, and this will lead to planned regulation of market relations. Thus Stetskii is arguing that such exchanges are necessary in order for it to be possible to regulate markets in a systematic manner.

It is clear from the above that Bukharin's ideas were expounded and amplified by a group of writers within the Bolshevik party. It is also clear that this group supported the use of market mechanisms of regulation alongside planned methods

in the transition period. However, no Bukharinite ever argued that market methods would remain after the transition was complete: NEP remained for them a transitional stage only.

2.9 - POPOV AND THE BALANS

The split between right and left permeated a great deal of political and economic activity in the USSR in the 1920s. On a political level it was clear which people belonged to the Bukharin 'school' and that they formed a powerful sub-group within the Bolshevik party. However, Bukharinist-type ideas were not limited to those Bolsheviks who formed the 'inner circle' around Bukharin. Ideas which can be labelled 'right' were held by many Bolsheviks outside Bukharin's circle as well as by non-Bolsheviks, especially 'bourgeois experts' in economics and other fields.

A good example of someone who was not part of the Bukharin 'school' but who used the Bukharin line to formulate his own work in the 1920s was P.I. Popov. Popov had carried out the first all-Russian agricultural census in 1916 and was part of the zemstvo statistical movement. After the October revolution Popov became head of the Central Statistical Administration (TsSU), although he was not a member of the Bolshevik party at this time. One of the main tasks of the TsSU was to compile a yearly 'balance' of the national economy. This was a comprehensive attempt to reveal in value terms the process of production and consumption, including fixed capital stock, circulating capital, and consumer goods.¹⁰³

On July 21 1924 the STO ordered the TsSU to construct a balance of the national economy for 1923/4 and for 1924/5. Preliminary results of this work were published in 1925 and the final balance in June 1926, with the title *Balans narodnogo khozyaistvo Soyuza SSR 1923/4 goda*. Soon after publication Stalin dismissed Popov from the TsSU, which was to become part of Gosplan. In his introduction to this balance of the national economy Popov writes:

The balance...as a statistical operation seeks to show how and in what form the equilibrium of the national economy is achieved or disturbed in any given year.¹⁰⁴

The balance was to show how the annual output of the Soviet economy (plus imports and reserves) is actually realised and distributed among the branches of the economy. Popov notes that the methodological basis which Marx used in his analysis of capitalist society can also be used to solve problems of reproduction in socialist society and in the transitional epoch. Popov discusses Quesnay's *tableau economique* and then explains how Bukharin in *Imperializm i nakoplenie kapitala* derives an expanded reproduction equilibrium condition, examined earlier in this chapter.¹⁰⁵ He then states that a balance should be guided by these schemes in order that the current relationships between variables can be discovered. Proportionality between means of production and means of consumption and in distribution of the national product between various branches of the economy and classes of the population should be analysed 'thereby elucidating the relationships of equilibrium between production and consumption'.¹⁰⁶ Each form of social economy is based on a definite equilibrium which comes about as the result of exchange between branches - by market methods in capitalism, by a distributional plan in socialism, and by both in a transition - and thus the balance must uncover this specific relation.

The quantitative relationships which Popov claims to have found in the economy are as follows. The sum total of assets which came into the national economy in 1923/4 for distribution was 21,410,100,000 rubles, of which 47.2% was consumer goods and 52.8% raw materials, fuel, and tools of production. Thus Popov concludes:

If 100 units of output (in value terms) are to be consumed as means of subsistence, another 90 value units must be produced for investment in production as producer goods. This is the law of the Soviet economy, as it is precisely in this form that equilibrium is expressed...¹⁰⁷

In algebraic form the above equilibrium condition would be expressed as follows:

$$0.9A = B$$

where A = the department making means of production and B = the department making means of consumption. It is evident that this condition differs from Bukharin's equilibrium condition. Groman noted in a response to the balance that this scheme 'has very little in common with Quesnay or Marx', since organic unity and a breakdown into social forms - state socialist, state capitalist, private, natural etc - was lacking.¹⁰⁸ An important difference between the type of work undertaken in Popov's *Balans* and by Marx and Bukharin in their reproduction schemes is that the former discovered equilibrium ratios empirically, through analysis of statistical data which had been gathered from the field, whereas the latter deduced their equations theoretically from principles and assumptions which were given *a priori*.

Popov's *Balans* is interesting for what it reveals about his conception of the market. In the chapter entitled 'The Structure of the Soviet National Economy' Popov differentiates between three methods and forms of distribution and realisation (supply) of products in the national economy. They are:

- 1) non-regulated market methods;
- 2) regulated market methods;
- 3) methods of socialist regulation (planning).¹⁰⁹

Thus in this sense the market is conceived as a distributional mechanism. Popov links these different mechanisms with different types of economy as follows. The non-regulated market dominates in the sphere of private capital, the regulated market is predominant in state capitalism, and planned regulation is the method of socialist industry. Unregulated markets connect all types of economy but regulated markets connect state capitalist forms with socialist but not patriarchal-natural forms.

Peasant economy is two-thirds connected with non-regulated markets, one-third with regulated, and less than one-fortieth with planned realisation. Cooperative industry realises four-fifths of its commodities on regulated markets, and *kolkhoz* and *sovkhoz* realise three-quarters of their products on such markets. Two-thirds of large-scale state industry also distributes its products through regulated markets.¹¹⁰ In the

national economy as a whole non-regulated markets realise 38.9% of all products, regulated markets 40.2% and planned distribution 20.9%. The following table summarises this data for the supply-side of the economy in percentage form:¹¹¹

BRANCH	THROUGH THE MARKET UNREGULATED	THROUGH PLANNING REGULATED	TOTAL
1 Agriculture	67.6	29.8	100
2 Industry:			
Private	100.0	-	100
Cooperative	17.0	83.0	100
State	13.6	67.9	100
3 Transport	-	-	100.0
4 World economy	-	17.6	82.4
TOTAL	38.9	40.2	20.9

The following table contains the corresponding data for the demand-side of the economy also in percentage form:¹¹²

CONSUMERS	ACQUIRED THROUGH THE MARKET UNREGULATED	PLANNING REGULATED	TOTAL
1 Agriculture	67.1	32.4	0.5
2 City	76.6	20.7	2.7
3 Industry:	28.6	52.2	19.2
small	98.9	1.1	-
large	-	73.0	27.0
4 Transport	-	51.3	48.7
5 World market:			
acquisition	-	89.2	10.8
receipt	-	-	100.0
TOTAL	43.6	46.7	9.7

Popov does not go into detail about how markets are regulated, but it is clear from other works of the time that this involved regulation of prices, taxes, tariffs, and other such monetary indicators. These tables show that according to Popov market

methods of distribution (both unregulated and regulated) played by far the dominant role in distributing products in 1923/4, with planned distribution accounting for 20.9% on the supply-side and 9.7% on the demand-side. Of course Popov sees the planned distribution sector steadily increasing in size in the future as socialism is approached, but for the NEP economy at least in its early stages markets are the dominant mechanism of distribution. Other conceptions of the market, most notably as a mechanism for determining production priorities, are not mentioned by Popov, and the question of the place of the law of value, the law of labour outlays, and the law of price of production are also not discussed in the *Balans*. Such 'laws' seem to have had little relevance for an empirical investigation of the structure of the Soviet national economy in the early years of NEP.

The authors of the balance further attempt to examine various types of economic interdependencies, ie interindustry interdependence, product class relations, rural/urban relations, and regional relations. As regards relations between industry and agriculture, agriculture consumed 10,146 million gold rubles and produced 10,651 million, ie an approximate balance.¹¹³ As a supplier of raw materials and fuel agriculture was linked mainly to the food industry, textiles, solid organic products, and wood-processing. However, as a consumer agriculture was linked with an enormous number of industrial branches, branches which found their consumers in agriculture both in its productive operations and in its population.¹¹⁴ Another important relationship is that industry received 35.6% of its means of production from agriculture and 64.4% from its own branches, while of the sum total of means of production turned out by industry it delivered 13.2% to agriculture and consumed 86.8% internally. Generalising from this data Popov comes to the conclusion that to the extent that individual branches of agriculture are suppliers of raw materials and fuel for industry, industry has enormous monopsonist power to influence the way the respective agricultural branches organise.¹¹⁵ But since agriculture in contrast to industry is fragmented and lacks a coherent economic policy, it cannot use its monopolistic

power to anything like the same degree. Here Popov analyses the relative position of industry and agriculture from the point of view of their market making ability.

An important question to ask in relation to this balance is: what relation did Popov see this type of balance having to a general socialist plan? Popov writes:

On the basis of a balance of the national economy for a number of years, the calculation of general relations and the calculation of class relations reflected in economic policy, it is possible to compose a plan for the whole economy for the following year and also, in general outline, the correct movement of large branches of the national economy as a whole...¹¹⁶

However, Popov notes that plans longer than a year can only give the general lines of development, not detailed and specific directions. The type of plan outlined above Popov refers to as 'a plan for the national economy in the transitional epoch', and he stresses the idea that accurate balances were required for a number of years before the planning process can begin. The similarity between Popov's conception of transitional planning and the Bukharinist view is readily apparent.

One of the co-authors of the balance, L.N. Litoshenko, discusses the concept of 'profitability' as a criterion for the national economy in a section entitled 'Methods of Constructing a National Economic Balance'. Litoshenko notes that the accounts of a private enterprise must show how profitable its various branches are and how profitable it is as a whole. However, according to Litoshenko this is not a suitable approach for the national economy as a whole, since the balance of overall credit and debt would be an 'imaginary, unreal value'.¹¹⁷ The point of a balance should be to provide a 'conscientious picture, as complete as possible, of the process of production and distribution of physical commodities'. This shows clearly that the balance was not designed to present information which enabled decisions concerning production priorities to be taken, ie it was not designed as a replacement for the price system as the carrier of information regarding optimal production decisions. The idea of developing planning as a replacement for

the market was not the aim of the Popov balance. It was purely to cognise existing reality and thus to understand how the Soviet economy functioned.

I hope to have shown in this section on the Popov *Balans* how Bukharinist ideas had wide resonance during NEP and were not confined to a small group of political theoreticians. I also hope to have demonstrated that this type of balance was not conceived of as a replacement for the market, but as a way of cognising its activity. According to Bukharinist theory the full and accurate cognition of market processes was a necessary precondition for the attempt to replace such processes with planning. Popov's balance was one step in this direction.

2.10 - CONCLUSION

In this chapter I have shown that Bukharin's theoretical critique of Bohm-Bawerk's version of market economics was both internal and external in nature, but that the actual market mechanics which Bohm-Bawerk outlined were of less interest to Bukharin than the subjective value theory on which they were based. Bukharin's attitude towards the market was overwhelmingly negative prior to the October revolution, as shown by his critique of Bohm-Bawerk. In relation to policy I have shown that while after 1921 Bukharin and the Bukharinites actively supported the use of market relations in the transitional economy, they still believed that the market would be replaced in a full communist economy by planning. In terms of Wiles's framework outlined in chapter one the Bukharinist transitional economy could be placed somewhere between CWE and RM, ignoring the ownership question.

Bukharin's acceptance of the market during NEP led him to reconsider the function that it performs, and to stress some of its positive features. Even so this acceptance was only partial, as Bukharin supported the regulation of some types of prices and the continuation of the monopoly of foreign trade. Popov's conception of markets as distributional instruments linked to certain economic spheres reflects the 'place' meaning of the

market rather than the optimality conception, and was related to ideas of preparing a national economic balance. Bukharin's stress on market capacity as a factor influencing industrialisation policy also reflected this 'place' conception. In general it can be said that the Bukharinite view of the market was more empirical than theoretical in nature, and that Bukharin's support of the market in NEP was linked more to policy concerns such as allowing the peasantry freedom to trade rather than purely theoretical ideas about what constitutes an optimal economic system.

NOTES

- 1 N.I. Bukharin, *Economic Theory of the Leisure Class* (New York: Monthly Review, 1972), p.9. Bukharin's *Politicheskaya ekonomiya rant'e* was translated into English and published in America in 1927 with the title *Economic Theory of the Leisure Class*. This work was reprinted by the Monthly Review Press in 1972, and all references are to this 1972 edition.
- 2 Bohm-Bawerk, *The Positive Theory of Capital* (MacMillan, 1891), p.193.
- 3 Ibid, p.199.
- 4 Ibid, p.208.
- 5 Ibid, p.203.
- 6 Ibid, p.193.
- 7 Ibid, p.204/5.
- 8 Bukharin, *Economic Theory of the Leisure Class*, p.37.
- 9 Ibid, p.47.
- 10 Ibid, p.102.
- 11 Returning to Bukharin's criticism it may be said that if Bohm-Bawerk's reasoning is agreed to be circular, this does not necessarily mean it is false. It may be that what determines price at time t_1 is in fact its price at t_0 plus the subjective valuations of sellers and buyers in the interval $t_0 - t_1$. A regression then ensues to t_{origin} , at which time it could be argued that pure subjective evaluations determine the price. Bohm-Bawerk does not make this addition to his theory, but it is a possible answer to accusations of circular reasoning.
- 12 Bukharin, *Economic Theory of the Leisure Class*, p.104.
- 13 Ibid, p.105.
- 14 Ibid, p.108.
- 15 Ibid, p.158.
- 16 Bukharin, *Izbrannyyi proizvedeniya* (Moscow: Politizdat, 1988), p.493.
- 17 Bukharin, *Historical Materialism: A System of Sociology* (Russell & Russell, 1965), p.31.
- 18 Ibid, p.37.
- 19 Ibid, p.37/8.
- 20 Ibid, p.40.
- 21 Bukharin, *Economic Theory of the Leisure Class*, p.11.
- 22 John Bates Clark, *The Distribution of Wealth* (London, 1908), p.289.
- 23 Bukharin, *Economic Theory of the Leisure Class*, p.24.
- 24 Ibid, p.25.
- 25 Bukharin, *Imperialism and World Economy* (London: Merlin, 1987), p.18. This work was reprinted in Russian in Bukharin, *Problemy teorii i praktiki sotsializma* (Moscow: Politizdat, 1989) p.21-93.
- 26 Bukharin, *Imperialism and World Economy*, p.20.
- 27 See for example Brandner, 'Shaping Comparative Advantage: Trade Policy, Industrial Policy, and Economic Performance' in Lipsey & Dobson ed., *Shaping Comparative Advantage* (C.D.Howe Institute, 1987), p.10.
- 28 Bukharin, *Imperialism and World Economy*, p.20.
- 29 Ibid, p.125.
- 30 Ibid, p.79.
- 31 Ibid, p.75.
- 32 Bukharin, 'The New Course in Economic Policy', translated in

- Selected Writings on the State and the Transition to Socialism* (M.E. Sharpe, 1982) ed. Richard B. Day, p.126.
- 33 Ibid, p.141.
- 34 Ibid, p.133.
- 35 Ibid, p.124.
- 36 Ibid, p.125.
- 37 Ibid, p.113.
- 38 Bukharin, 'Concerning the New Economic Policy and Our Tasks', translated in *Selected Writings on the State and the Transition to Socialism*, p.189. This work was reprinted in Bukharin, *Izbrannye proizvedeniya*, p.122-145.
- 39 Ibid, p.188.
- 40 Ibid, p.171.
- 41 Ibid, p.173.
- 42 Bukharin, 'The Road to Socialism and the Worker-Peasant Alliance', translated in *Selected Writings on the State and the Transition to Socialism*, p.260. This work was reprinted in Bukharin, *Put' k sotsializmu* (Novosibirsk: Nauka, 1990), p.1-100.
- 43 Ibid, p.261.
- 44 Ibid, p.204.
- 45 Ibid, p.173.
- 46 Bukharin, 'K voprosu o zakonomernostyakh perekhodnogo perioda' in *Pravda*, 3 July 1926, p.2.
- 47 Ibid, p.2.
- 48 Ibid, p.3.
- 49 Ibid, p.2.
- 50 Ibid, p.3.
- 51 Bukharin, 'Economics of the Transition Period', translated in *The Politics and Economics on the Transition Period* (London: RKP, 1979), p.149. This work was reprinted in Bukharin, *Problemy teorii i praktiki sotsializma*, p.94-176.
- 52 Ibid, p.155.
- 53 Ibid, p.124.
- 54 Of course Einstein revolutionised the scientific understanding of laws with his principle of relativity - physical laws can be written in the same form in all inertial frames. However, Bukharin's notion of law does not correspond to either the Newtonian or the Einsteinian view.
- 55 Bukharin, 'Notes of an Economist', translated in *Selected Writings on the State and the Transition to Socialism*, p.302. This work was reprinted in Bukharin, *Izbrannye proizvedeniya*, p.391-418.
- 56 Ibid, p.305.
- 57 Ibid, p.307.
- 58 Ibid, p.306.
- 59 Bukharin, *Imperialism and the Accumulation of Capital* (Penguin, 1972), p.158.
- 60 Bukharin, *Selected Writings on the State and the Transition to Socialism*, p.308.
- 61 Bukharin, 'The Theory of "Organised Economic Disorder"', translated in *ibid*, p.338.
- 62 Ibid, p.344.
- 63 Ibid, p.350.
- 64 Ibid, p.349.
- 65 Bukharin, *Izbrannye trudy* (Leningrad: Nauka, 1988), p.327.
- 66 Ibid, p.328.
- 67 Ibid, p.332/3.

- 68 Bukharin, *Imperialism and the Accumulation of Capital*, p.225.
- 69 Ibid, p.229.
- 70 Ibid, p.234.
- 71 Ibid, p.228 & 232.
- 72 Perhaps the greatest influence on Bukharin's conception of equilibrium was A.A. Bogdanov, whose major work was entitled *Tektologiya: vseobshchaya organizatsionnaya nauka* published in 1922. This work was an ambitious attempt to present a science of everything in terms of organisation theory, and Bogdanov's experience in both social and natural science allowed him to use evidence and examples from all fields of scientific activity. Bogdanov's notion of equilibrium is taken from the chemist Le Chatelier, and in *Tektologiya* Bogdanov presents a theory of crisis based on the idea of the dissolution and formation of tektological boundaries. Bogdanov relates that in market exchange the collaboration of various households has the form of a struggle over price. This struggle means that 'activities are directed in opposite directions and that they destroy each other to this or that degree'. Thus Bogdanov gives a negative appraisal of the market in this work, a view which probably influenced Bukharin to some extent. See Bogdanov, *Essays on Tektology* (Intersystems, 1980), p.138.
- 73 C.I. Peter Ferdinand, *The Bukharin Group of Political Theoreticians: their ideas and their importance in the Soviet Union in the 1920s* (Unpublished PhD dissertation, Oxford, 1981), p.42.
- 74 Ibid, p.121.
- 75 See for example Leont'ev, *Sotsialisticheskoe khozyaistvo*, no.5 1929, p.35.
- 76 A. Aikhenval'd, *Sovetskaya ekonomika* (Moscow, 1927), p.290.
- 77 Ibid, p.287.
- 78 Ibid, p.296.
- 79 Ibid, p.294/5.
- 80 Ibid, p.296/7.
- 81 Ibid, p.255.
- 82 In modern terms the 'S-curve' model of national income, showing that the rate of growth of income increases as the transition is made from a predominantly agricultural economy to one that is industrialising, could be used to show that industrialisation is a necessary condition for increased prosperity. See R.M. Sundrum, *Economic Growth in Theory and Practice* (London: MacMillan, 1990), p.17.
- 83 Aikhenval'd, *Sovetskaya ekonomika*, p.277.
- 84 Ibid, p.279.
- 85 Ibid, p.280.
- 86 Ibid, p.281. The conflation of 'spontaneous' with 'irrational' is a characteristic feature of the Marxist doctrine of this time.
- 87 Ibid, p.283.
- 88 Ibid, p.291.
- 89 Ibid, p.315.
- 90 Ibid, p.318.
- 91 Ibid, p.318.
- 92 Ibid, p.205.
- 93 Ibid, p.322.
- 94 Ibid, p.293.
- 95 Ibid, p.324.

- 96 Ibid, p.327.
- 97 Bukharin, 'Notes of an Economist', *Selected Writings on the State and the Transition to Socialism*, p.306.
- 98 Aikhenval'd, *Sovetskaya ekonomika*, p.331/2.
- 99 V.N. Astrov, 'Avstro-marksistkaya "sotsializatsiya"', *Bol'shevik*, no.17 1927, p.26.
- 100 Ibid, p.28.
- 101 A. Slepko, 'K voprosu o roli nepa', *Pravda*, 15 December 1925, p.3.
- 102 A.I. Stetskii, 'Osnovnye voprosy vnutrennei trgovli', *Bol'shevik*, no.3/4 1924, p.56.
- 103 S.G. Wheatcroft & R.W. Davies ed., *Materials for a Balance of the Soviet National Economy 1928-30* (Cambridge: CUP, 1985), p.36.
- 104 P.I. Popov, 'Introduction to the Balance of the National Economy', translated in Nicolas Spulber ed., *Foundations of Soviet Strategy for Economic Growth* (Bloomington: Indiana University Press, 1964), p.5/6.
- 105 Ibid, p.9-12.
- 106 Ibid, p.14/15.
- 107 Ibid, p.82.
- 108 Ibid, p.96.
- 109 P.I. Popov et al., *Balans narodnogo khozyaistvo Soyuza SSR 1923/4 goda* (Moscow: Trudy TsSU, 1926), part I, p.41.
- 110 Ibid, p.47.
- 111 Ibid, p.47.
- 112 Ibid, p.48.
- 113 P.I. Popov, 'Balance Sheet of the National Economy', translated in Spulber ed., *Foundations of Soviet Strategy for Economic Growth*, p.57.
- 114 Ibid, p.73.
- 115 Ibid, p.78.
- 116 Popov et al., *Balans narodnogo khozyaistvo Soyuza SSR 1923/4 goda*, p.27.
- 117 L. Litoshenko, 'Methods of Constructing a National Economic Balance', translated in Spulber ed., *Foundations of Soviet Strategy for Economic Growth*, p.21.

3.1 - INTRODUCTION

Evgeny Aleksandrovich Preobrazhenskii (1886-1937) joined the Russian Social Democratic Party when he was seventeen. In 1920 he was elected to the Central Committee of the Bolshevik Party, and from the early 1920s he was the leading economic theorist of the various left oppositions within the party often allied with Trotskii. After 1929 he was readmitted to the party on a number of occasions, only to be arrested in 1935 and shot two years later. His work *Novaya ekonomika* of 1926 is often referred to as the most original work of economics to emerge from the NEP period.

3.2 - MARX AND HILFERDING

Already in Marx's time it was clear that capitalism was beginning to change in nature, it is often argued. Pure *laissez-faire* was being replaced, if in fact it ever existed, with a more interventionist practise. Marx also held this view and interpreted it as another sign that the capitalist mode of production was ripe for the transition to socialism. Thus the instruments which had developed making possible intervention could be interpreted as being in some sense socialistic. Marx wrote:

The banking system possesses indeed the form of universal book-keeping and distribution of means of production on a social scale, but solely the form...It places all the available and even potential capital of society...at the disposal of the industrial and commercial capitalists so that neither the lenders nor users of this capital are its real owners or producers. It thus does away with the private character of capital and thus contains in itself, but only in itself, the abolition of capital itself...¹

The development of credit, a central part of the banking system, enabled an enormous expansion of the scale of production impossible for individual capitalists alone, and transformed the

functioning capitalist into a mere manager. The result of this ultimate development of capitalist production, according to Marx, was to bring about 'a necessary transitional phase towards the reconversion of capital...as the property of the associated producers, as outright social property'.² Marx linked the need for state intervention with the development of monopoly in certain spheres of production. If monopoly was the logical development of competition, then intervention followed *pari passu*.

By the turn of the century things had progressed even further. In *Finance Capital* of 1910 Rudolf Hilferding claimed to analyse a 'new phase' in capitalist development. The most characteristic feature of 'modern' capitalism, according to Hilferding, was the process of concentration, which eliminates free competition through the formation of cartels and trusts, and brings bank and industrial capital into a closer relationship.³ Credit was a central mechanism by which this 'new' phase of capitalism operated. According to Hilferding credit was a private relation between contracting parties based upon a mutual confidence in ability to pay.⁴ Repeating ideas which Marx had expressed, Hilferding noted that credit extends the scale of production beyond that which is possible with money capital alone, and a new 'credit superstructure' is built upon this expansion.

As in Marx, Hilferding saw these new developments as heralding the appearance of socialism. He also believed that monopoly showed the way for future socialist forms of production. He writes that the monopolistic association is an organisation for economic domination and there is therefore a close analogy with the organisation of state domination.⁵ As to the limits to cartelisation - there were none. The ultimate outcome could be a general cartel, in which the whole of capitalist production is consciously regulated by a single body which would determine the volume of production in all branches. Price determination becomes purely nominal, involving only the distribution of the aggregate social product between the cartel on the one side and the rest of society on the other.⁶ Price is here purely an accounting device:

The tendency of finance capital is to establish social control of production, but it is an antagonistic form of socialisation, since the control of social production remains vested in an oligarchy. The struggle to dispossess this oligarchy constitutes the ultimate phase of the class struggle between proletarian and bourgeoisie.⁷

3.3 - PREOBRAZHENSKII AND MONOPOLY

As a Marxist Preobrazhenskii held to the orthodox opinions on these matter as expressed above. In *Novaya ekonomika* of 1926 he writes:

Marx on the one hand pointed to the important role which the credit system of bourgeois society can play in the transition to a new mode of production, and on the other hand he warned against over-estimating the importance for socialist production of the system of accounting and control...⁸

Thus when the Bolsheviks came to power they believed that pure competition had long since disappeared from the capitalist system, and that monopoly in one form or another was the characteristic feature of contemporary capitalism. This meant further that free markets no longer had any place in the economic system, and thus the state monopoly system which the Bolsheviks created after 1917 was not seen as much removed from the monopoly phase of capitalism which it had just replaced. Preobrazhenskii's conception of the market must be seen in this context.

Included in the system of 'accounting and control' mentioned by Preobrazhenskii in the above quote was questions of price policy. In *Novaya ekonomika* Preobrazhenskii argued that behind a 'shield of socialist protectionalism' different branches of production could be preserved, developed, and created 'guided by our ideas of what is economically expedient for the entire state economy'.⁹ The customs policy of the USSR would be a powerful barrier protecting the country's internal commodity circulation from the impact of the world law of value.¹⁰ There was also to be a price policy of consciously alienating a certain part of the surplus product of private

economy. This was possible because of the features which had been developed by monopoly capitalism. The concentration of all large-scale industry into the hands of the workers' state increased enormously the possible extent of monopoly control of price policy.¹¹

For Preobrazhenskii prices were a key tool by which the state could control the economy. Prices were to be manipulated against the law of value to achieve favourable conditions for the development of types of industrial organisation which were deemed socialist. He also supported the idea of using the USSR's natural monopoly of certain resources such as platinum and flax on the world market to obtain a surplus profit in this larger realm.¹² It is necessary to differentiate between the specific purpose for which Preobrazhenskii advocated price manipulation in *Novaya ekonomika* - primitive socialist accumulation - and the more general and lasting notion of state regulation itself. He writes:

...the regulating principles in our economy are the organisational shoots of the new economics - the economics of state-organised economy. But at the present stage these shoots are...fulfilling *first and foremost the functions of primitive socialist accumulation...*¹³

The idea of state regulation of production is very strongly supported by Preobrazhenskii. However, it is clear that at least for the transition to socialism, and perhaps in the first stages of socialism itself, this regulation would be achieved at least partially through the mechanisms of control evolved by capitalism in its monopoly phase. Thus this would be regulation of the market in a traditional non-socialist sense, using indirect controls such as prices and interest rates. It would not mean the abolition of the market system itself.

In a later work, *Zakat kapitalizma* of 1931, Preobrazhenskii again discusses the relationship between the final monopolistic phase of capitalism and the regulation required in a socialist economy. He writes:

...the monopolistic structure of capitalism so curtails - or distorts - the action of the law of

value, that today this law can no longer regulate the process of reproduction as it once did in the epoch of free competition.¹⁴

This seems to be contradicted by a passage later in the same work, where he writes that in monopolistic capitalism 'the law of value remains the spontaneous regulator of economic life'.¹⁵ The two passages can be reconciled if the first is taken to mean that the law of value no longer regulates reproduction in the same manner as before, but rather regulates it in a different manner, ie after being mediated through the distortions in price produced by monopoly.

In relation to monopoly capital categories in the transition Preobrazhenskii notes that the category of interest is found in the buying and selling of money capital on the legal and illegal private money markets of the Soviet Union.¹⁶ This means that private credit institutions such as societies for mutual credit, and the illegal loan capital market, exist and command high rates of interest. Private capital in the USSR is not predominantly industrial capital, but is trading and loan capital, and the proportion of loan capital is increasing as the sphere of application of private capital in trade narrows. Private capital steers clear of industry for a number of reasons: tax policy, laws protecting labour, restrictions on inheritance, slower rate of turnover, risk in giving up some degree of liquidity, and of course the degree of socialisation of large- and medium-scale industry.

Preobrazhenskii makes it clear that although interest as understood in a capitalist economy does exist in the Soviet economy, it is on a small scale. On a much larger scale the state uses the 'methods and forms' of interest and capitalist credit organisation while filling them with an entirely new content:¹⁷

The planning, accounting and control which result organically from the socialisation of the instruments of production in the most important sections of the Soviet economy are essentially a higher type of planning and accounting than those to which the most advanced and centralised capitalist system could attain.¹⁸

Preobrazhenskii illustrates this difference as follows. Assume that the state has a certain quantity of resources which it can use to increase the fixed and circulating capital of its trusts. Assume further that a trust obtains a corresponding credit from Gosbank. It pays 'interest' on this loan, but from what source? From its own surplus product. Who owns this surplus? The socialist state. Where does all the money go which is received as interest payments on loan capital? To the same state. Thus this process is essentially a variety of planned distribution of the resources of the state economy which imitates the form of capitalist relations without the exploitative content.¹⁹

This section shows that when the Bolsheviks came to power they did not think that they would be involved with free markets, as capitalism itself had overcome them. Preobrazhenskii followed the general position that state regulation in Soviet conditions would use many of the same instruments which had been developed by monopoly capitalism, and his work *Novaya ekonomika* can be regarded as a continuation of these existing ideas relating specifically to the USSR.

3.4 - THE MARKET

In *Zakat kapitalizma* Preobrazhenskii asks the question: what is a market from the viewpoint of theoretical economics? The answer he gives is as follows:

The market represents the total of society's effective demand both for means of production and for articles of consumption; that is, on the one hand, the total demand of the economy's production apparatus as a whole, on the other hand the total demand of individual producers.²⁰

Perhaps the key point of this passage is that it is society's effective demand, ie demand backed by money, not necessarily demand in the sense of need. Here the market is presented in terms of its capacity to fulfil desires which can be supported monetarily. In relation to this paragraph Preobrazhenskii discusses the example of the coal industry in England.

According to Preobrazhenskii the oldest and most important branch of heavy industry in England is the coal industry. But it is technologically very backward and in need of colossal capital investment in order to lower the costs of production and raise the output of coal. However new English capital persistently moves in exactly the opposite direction, since such capital investment is unattractive from the viewpoint of acquiring profit today. For Preobrazhenskii this indicates that the system of distributing new issues by way of the market is 'absolutely outmoded', and prevents the full and most beneficial use of productive forces even from the viewpoint of developing the capitalist economy itself.²¹

Preobrazhenskii also asks the question: how is it that monopoly, which at first glance appears to signify the organisation of the market, in reality actually reinforces the disorganisation of capitalist production? The answer he gives is that even though the position of outsiders are weakened in their competitive struggle with monopolistic associations, the competition between trusts themselves is accenuated, taking the form not only of a struggle for markets on which to sell but also of a struggle in money and credit markets. Monopoly cannot eliminate competition because it does not eliminate 'what is most fundamental' - private property in the means of production, the market, and the struggle for a maximum share of profits.²²

Preobrazhenskii also argues that monopolistic capitalism is inferior to 'classical capitalism' in that the former undermines both the stimulus for rapidly expanding reproduction and the possibility of spontaneous self-regulation which was dominant in the latter. Monopoly represents more accurate knowledge of the market and thus a better adjustment to demand in any given period, which leads to a tendency to curtail production of that anticipatory expansion for an unknown demand which was characteristic of the epoch of free competition. Limiting the volume of production creates a 'thrombosis' in economic development, and intensifies the contradiction between the theoretical capacity of the available production forces and their degree of utilisation.²³ For this reason monopoly is inferior to 'classical capitalism', and although the market is

bucked to a far greater extent in the former this does not mean that capitalism has changed in nature and will produce for need. The search for maximum profit through the market has been replaced by the search for maximum profit through regulation of the market.

Thus it is apparently not the market *per se* which Preobrazhenskii seems to be criticising, but rather the goal of maximising profit. From this point and from the previous point about private property being 'most fundamental' to capitalism, it follows that Preobrazhenskii viewed the market as a secondary category through which more fundamental categories like profit functioned. It is interesting to note that in praising classical capitalism above monopoly Preobrazhenskii seems to be contradicting the idea examined earlier that monopoly levers developed in the final phase of capitalism could be used for socialist purposes in the transition, since here monopoly is equated with stagnation.

3.5 - PRICE IN THE TRANSITION

As mentioned above in *Novaya ekonomika* Preobrazhenskii outlines a framework for price policy in the transition period. In the chapter on the law of value in Soviet economy he writes:

While on the capitalist market under free competition price is a function of value, the state-monopolist's price on the private market is a function of primitive socialist accumulation, limited by the law of value.²⁴

According to Preobrazhenskii there were two regulating laws in the Soviet economy of the transition period - the law of value and the law of primitive socialist accumulation - and these two laws were engaged in a struggle for dominance. Thus price, as both a regulator of production and a means for state accumulation, was one of the arenas of struggle between the two laws. Preobrazhenskii's notion of primitive socialist accumulation was a means by which the state could accumulate funds for socialist construction by 'pumping over' resources

from one sector to another. Prices of state-industry produced goods should be regulated in order to achieve this pumping over. However, as the quote above indicates, Preobrazhenskii believed that this operation was limited by the law of value, which still at least partially functioned in the Soviet economy at this time.

Examples of price manipulation are given by Preobrazhenskii as follows. In areas where the state is a monopsonist, such as industrial crops and raw materials, it would use its monopsonist position to regulate the prices it pays for these commodities. However, there existed two 'frontier-barriers' established by the law of value - a maximum barrier and a minimum barrier. The maximum barrier was the average world price, the minimum barrier being the expenditure on labour and profitability for the producer as compared with other crops, resulting in a field of manoeuvre of 30-40% below the world price. The difference between the level of procurement price which would be formed on the basis of free competition by bourgeois purchasers and the level actually paid by the Soviet state 'should be fully attributed to the operation of the law of primitive socialist accumulation'.²⁵ Preobrazhenskii seems proud of the following fact, which is given as an example of how planning is replacing the market:

When the state...keeps prices at a certain level and even reduces them in spite of a growth in demand which outruns supply, as happened in 1925 with flax and cotton...we have before us a vivid example of the restriction of the law of value by the planning principle, in this case taking the form of the law of primitive socialist accumulation.²⁶

In the transition period, according to Preobrazhenskii, not only would prices be used in order to facilitate socialist accumulation, but also to determine production priorities in the peasant sector. He writes:

...the price policy of the state, as the predominant purchaser, can have a profound influence on the distribution of the production forces in the peasant economy, encouraging certain crops at the expense of others and introducing an element of planning into

Here price is transformed from a category of commodity economy into something transitional towards socialist calculation.

Preobrazhenskii differentiates between methods of price formation in a number of different sectors. In the production of means of production, where the state has both a monopoly and is a monopsonist, the law of value 'merely influences accumulation and depreciation through the fluctuation in prices, without introducing changes into the distribution of labour power'.²⁸ However, when the state has a monopoly but is not a monopsonist the law of value affects 'not only the amount of accumulation in the state sector but also the distribution of productive forces in it'.²⁹ The case where the overwhelming majority of products were produced in the private (peasant) sector was discussed earlier, with the result that the state can use its monopsonist position to assist accumulation.

In the field of consumer goods the influence of the law of value is 'considerably greater' than in the field of production of means of production. This is because of four features:

- 1) the greater role played by the competition of private producers;
- 2) the greater influence of the law of value as regards the fluctuation of raw material prices;
- 3) the greater dependence on the effective demand of private economy;
- 4) the greater influence on retail prices of supply and demand.³⁰

State production of consumer goods is further influenced by the law of value in so far as the raw materials are purchased from the private sector or from overseas. Preobrazhenskii notes that in order to weaken this influence of the law of value it is necessary to develop internal raw material production.

3.6 - THE LAW OF VALUE

In *Vestnik kommunisticheskoi akademii* of 1926 there appears a 'Stenogrammy dokladov chitaemikh v kommunisticheskoi akademii'

concerning a debate on Preobrazhenskii's paper 'Zakon tsennosti v sovetskom khozyaistve' (a chapter of *Novaya ekonomika*) which had appeared in the *Vestnik* on a previous occasion. A number of people give their comments, including A.A. Bogdanov and L.N. Kritsman. Stetskii puts an interesting criticism. He argues that Preobrazhenskii discusses the question of value exclusively from the point of view of modifications in price. When Preobrazhenskii says that the categories of value have become obsolete, what does this signify? It means that the law of value (*zakon tsennosti*) ceases to be the regulator of the economy:

This also means that the redistribution of social labour ceases to go along the path of exchange and trade relations. Consequently...we must create a new means for the redistribution of social labour besides exchange. This is an important feature to which Preobrazhenskii does not give his attention.³¹

Since Preobrazhenskii does not indicate such an alternative means of dividing social labour between branches, then, according to Stetskii, it is impossible to give a full explanation of the role of the law of value in Soviet economy.

Bogdanov puts a separate criticism. He claims that whenever Preobrazhenskii speaks of the law of value in conditions of socialist economy, it is possible to replace it with the 'law of the free play of supply and demand'. Instead of the 'law of free play of supply and demand' Preobrazhenskii writes 'the law of value':

Perhaps these are one and the same thing? The law of value is not simply the law of the free play of supply and demand. This is only the spontaneous form of its manifestation. Strictly speaking the law consists by no means of oscillations, but rather in the tendency of these fluctuations to a definite norm...³²

Preobrazhenskii gives a summary of what he means by 'the law of value' in *Novaya ekonomika*. It is the spontaneous equilibrator of commodity-capitalist society through which everything which is needed for the comparatively normal functioning of the whole productive system is achieved. This includes: 1) the distribution of productive forces (means of production and

people) among the different branches of the economy; 2) the distribution of the aggregate product between workers and capitalists; 3) the distribution of the surplus product among different countries, branches, and exploiters; 4) technical progress - the victory of advanced economic forms over backward ones.³³ From this it follows that the law of value must somehow include the 'law of free play of supply and demand', but it could not be reduced to it.

Bogdanov then asks: what is the law of value in Marx, and what is it in Preobrazhenskii? For Marx, according to Bogdanov, the law of value is a law of *labour* values:

...the law of labour value under capitalism is a law according to which the distribution of productive elements are regulated by labour outlays (*trudovie zatrati*)...³⁴

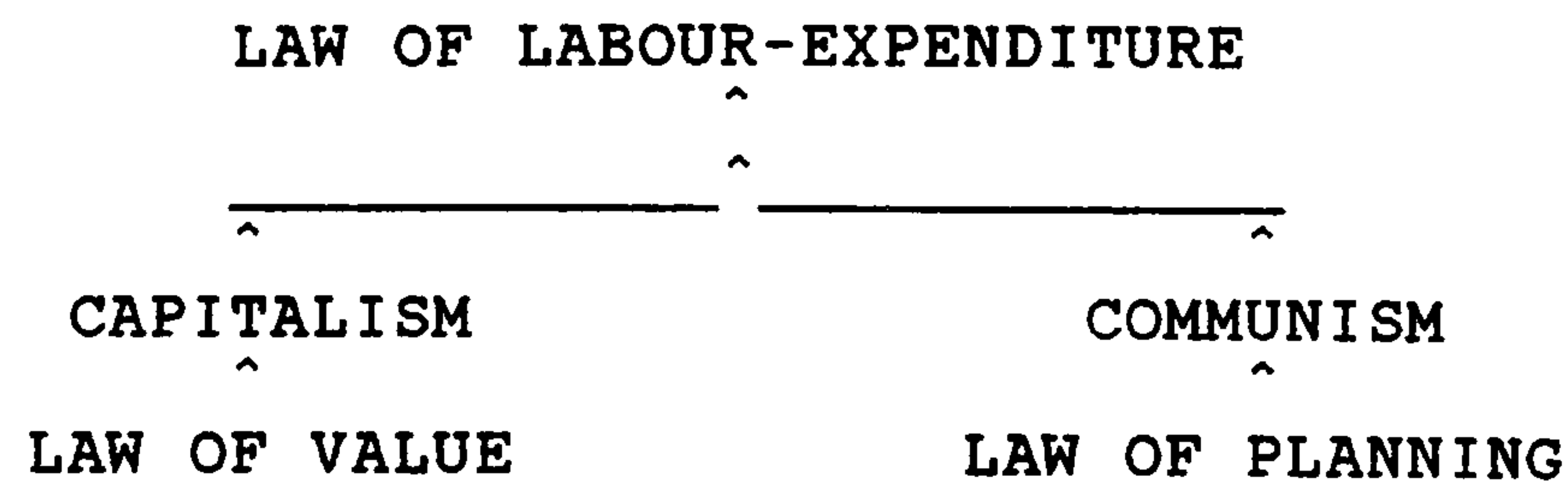
However Preobrazhenskii does not mention the idea of labour value, and thus Bogdanov criticises him. Bogdanov argues that Preobrazhenskii makes this mistake because he is looking for another science to use in socialism instead of political economy - a science of social technology.

In Marxist literature the law of value is usually contrasted either with the law of primitive socialist accumulation or with a law of planning. Thus it is implied that these things are totally different in nature. However, Bogdanov speaks of the law of value 'in its spontaneous form' and 'in its planned form'. He implies that there is some general *zakonomernost'* which underlies the law of value, and which may outlive capitalism. In fact Preobrazhenskii had done exactly the same in his *Novaya ekonomika*. In a footnote he writes:

...I speak of the law of value as the spontaneous regulator under the commodity and the commodity-capitalist system of production, that is, of the historically-transient *form* assumed in exchange society by the regulation of the economy by labour-expenditure. I do not speak of this regulation *in itself*.³⁵

According to Preobrazhenskii regulation by labour-expenditure will exist in planned economy too, but will be effected in

another way, ie on the basis of direct calculation of labour time. Bukharin had in fact criticised Preobrazhenskii precisely for not conceding this point, as shown in the previous chapter. These distinctions can be presented in diagramatic form as follows:³⁶



It is clear from these debates that the 'law of value' did not have a clear and universally accepted meaning for economic theorists in the USSR in the 1920s. For some it was equivalent to the market as an equilibrator of supply and demand, for others it was a historically specific form of the law of labour expenditure. In my opinion this diversity of opinion reflects the ambiguity present in *Capital*.

3.7 - FROM NEP TO SOCIALISM?

It is interesting to compare Preobrazhenskii's thoughts on questions of state regulation and markets in *Novaya ekonomika* to those in *Ot nepa k sotsializmu*. The latter was written much earlier than the former, almost immediately after the adoption of NEP in 1921, and contains Preobrazhenskii's speculations about how he thinks/hopes NEP will evolve.

As has already been noted one of the basic problems of capitalism according to Marxist theory is realisation, ie actually selling the product produced at a price which yields the expected profit. This results in a constant search for new markets on which to sell. However, according to Preobrazhenskii, for a country like Russia 'external markets were not needed for the expansion of industry because every increase in production made more available for socialist distribution'.³⁷ Overproduction crises were thus impossible in Russia: although

industry still worked for the internal peasant market, there was no need for external markets.

In opposition to Lenin, Preobrazhenskii relates in *Ot nepa k sotsializmu* that he believes that the name 'state capitalism' is inappropriate to describe the Russian economy at this time. Rather he prefers the label 'commodity-socialist' system of economy (*tovarno-sotsialisticheskoi*) because this highlights the two key constituents - petty (peasant) commodity production and large-scale socialist (state) industry. Preobrazhenskii's breakdown of the NEP economy is as follows: socialism is represented by large-scale state industry, which occupies the second largest section of the entire economy; cooperatives, mixed companies, and private trade occupy significant parts of the economy but each are smaller in total than state industry; petty production in town and country represents the largest single element in the economy, with patriarchal relations also having a place among petty producers.³⁸ All these layers of the economy are linked mainly through trade and thus market relations, and this is evidently a picture of a mixed economy.

The following passage from *Ot nepa k sotsializmu* is very interesting from the point of view of asking the question: how much market-determined production priority was allowed during NEP?:

Unless an enterprise was supported by the state as being very necessary regardless of whether it was deficient or not, the question of its necessity was settled by reference to the market.³⁹

This suggests that only the most important types of production should be, according to Preobrazhenskii in 1921, supported by the state regardless of its economic viability, while the majority of firms should be allowed to find their own way on the market. Preobrazhenskii notes that on the market some enterprises made big profits while others hardly made ends meet, and this led to a situation where the former were able to pay their workers a great deal more than the latter. In turn this led to great inequalities, but this was 'absolutely necessary' at this stage.⁴⁰ Output increases were stimulated by the purely bourgeois method of relying on the personal interest of each

worker, the aim being to expand production at all costs with the least possible expense.

The following outline by Preobrazhenskii of a practice supposedly adopted by Gosbank shows firstly that his understanding of the mechanics of markets was every similar to the conception which was dominant in 'bourgeois' economics at this time, and secondly that the proletarian state would act on these markets in an identical manner to those wishing to speculate for personal gain, except of course that the spoils of these operations would be used for the construction of socialism.

Since Russia was predominantly an agricultural country, it suffered from great fluctuations in the demand for money in the period when the harvest was being realised. Gosbank 'brilliantly utilized' these seasonal fluctuations in the market and the corresponding currency conjectures for the purpose of accumulating capital. In the autumn, when all commodity producers in the countryside were obtaining money and trying to rid themselves of goods, Gosbank utilised its right of issue and bought up agricultural products with hundreds of millions of new rubles. In the spring and summer, when the currency 'hangover' had set in and goods were scarce, Gosbank sold off at favourable prices its stock purchased in the autumn and reaped enormous profits.⁴¹ Thus Gosbank became a giant speculator. However, there is no trace of this idea in latter works such as *Novaya ekonomika*, and it seems unlikely that the state actually attempted this policy.

Preobrazhenskii gives the following account of how he thought the market would evolve in this period:

The market, with its capriciousness and its elemental waves of rising and falling prices, ceased to be a source of surprises for planned economy, partly through study of the demands of petty production and partly through the power over it which the state wielded owing to its dual monopoly in the production of large-scale industry and the trade in its products. It was gradually 'domesticated' to socialism.⁴²

This 'domestication' of the market through restricting its power proceeded along two paths. Firstly, that of mastering it on the basis of its own laws, and secondly, that of distributing part of the values produced in ways which bypassed it. This second path included collective payment of bonuses to enterprises, advancing long-term loans outside of the market mechanism, distribution of credit in kind without middlemen, and planned construction outside of the influence of market criteria by the use of the state's free capital. As a result of this sort of combination of planned guidance with capitalist market calculation, the new commodity-socialist system of economy 'exhibited a far greater equilibrium of its different parts than had ever been within the capacity of pure capitalism'.⁴³

Preobrazhenskii writes that in the first decade of NEP the mixed form of commodity-socialist economy opened up sufficient scope for the development of the productive forces so that the capitalist forms did not restrict the socialist content. However, after a time restrictions became evident and a new phase of casting off of capitalist husks began.⁴⁴ In this period:

Market prices, formerly the spontaneous regulator of the economy, were now transformed in the hands of the mighty state, into an auxiliary tool of planned economy.⁴⁵

The movement of prices on the market was now a means of socialist regulation of the non-socialist sectors of the economy. Preobrazhenskii seems to have been so impressed by the regulatory powers of the market that instead of claiming it could be used in the transition period only, in the following quote he shows that he believed it would exist well into socialism itself, and not fade until socialism finally transforms into communism:

...socialism does not completely exclude the market for those branches of the economy - for example for petty production - which are not yet socialised. True, these branches, and the market with them, gradually wither away under socialism. But they wither away *gradually*, as socialism turns into communism...⁴⁶

During the existence of the mixed system of commodity-socialist production 'the state did not hasten to drive money out of circulation or artificially restrict the sphere of calculations of money', since under the mixed system 'money had a great advantage, and could not be replaced by "labour-units" or other artificially conceived methods of calculation'.⁴⁷ It is clear that in general *Ot nepa k sotsializmu* was more optimistic in tone than Preobrazhenskii's later works, and was also somewhat more positive towards the use of the market in NEP.

3.8 - THE GOODS FAMINE

Preobrazhenskii's analysis of the goods famine is interesting for what it reveals about his views of the market. However, before examining this it is useful to begin with some preliminary remarks about War Communism.

In 'Ekonomicheskaya politika proletariata v krest'yanskoi strane' published in *Kommunisticheskii internatsional* in 1922 Preobrazhenskii had compared NEP to War Communism. He characterised War Communism as an attempt to impose planned distribution of products when a petty individual mode of production was dominant. In these terms NEP came about because 'the peasantry forced the state to return to the old system of market distribution'.⁴⁸ This implies that War Communism did not prevent market production, only market distribution. In 'Khozyaistvennoe ravnovesie pri konkretnom kapitalizme i v sisteme SSSR' published in *VKA* in 1926 Preobrazhenskii notes that in War Communism, as opposed to NEP, there was no market link between the state sector and the petty production sector. However, although no legal market exchange occurred, illegal and 'semi-legal' markets did exist.⁴⁹ This shows two things. Firstly, that War Communism did not eliminate the market in the field of production. Secondly, that although there was no legal market link between the state and petty production sectors in the field of distribution, there was an illegal market link. Thus it is possible to conclude that, contrary to popular

belief, the market was indeed quite active in the War Communism period.

Now to the goods famine. In 'Ekonomicheskie zametki I - O tavarom golode' published in *Pravda* in 1925 Preobrazhenskii states that the goods famine is the result of an excess of effective demand over supply.⁵⁰ Roughly the same proportions of agriculture and industry existed in Tsarist Russia as now exists in the USSR - why did they not experience a goods famine also? The reason is, according to Preobrazhenskii, that the peasantry paid higher taxes and dues in Tsarist Russia.⁵¹ The goods famine is a result of the altered system of distribution of national income (ie of effective demand), therefore by implication the way to prevent a further goods famine is to reduce the effective demand of the peasantry.

In 'Ekonomicheskaya zametki II' published in *Bol'shevik* in 1926 Preobrazhenskii comes at the problem from a different angle. He asks how would the law of value restore equilibrium if it functioned without hindrance in the USSR?:

A long-term rise in the prices of industrial commodities would have to lead, on the one hand, to increased imports of the commodities in short supply and, on the other hand, to a redistribution of productive forces between town and country through the influx of fresh capital into branches with underproduction of commodities.⁵²

Thus production would adjust to the country's expanding effective demand by both increasing imports and increasing production in those branches which produce the goods in question. However, it could be argued that the two processes of importation and increased internal production are a zero-sum game. The more of one which occurs, the less of the other. The world law of value (or comparative advantage in 'bourgeois' terminology) will decide what mix of the two actually occurs. It may be that no new production within the USSR is called on-line, since it would be more efficient for the world economy for other countries to produce the required goods and export them to the USSR. In other passages Preobrazhenskii realises this, for example also in 'Ekonomicheskie zametki II' the following passage can be found:

If economic relations in our country were now to develop on the basis of the free operation of the law of value of the world economy...two-thirds of our large-scale industry would be eliminated because of its unprofitability...from the standpoint of the world division of labour on a capitalist basis.⁵³

If the law of value would lead to elimination of much large-scale industry, then an argument which says that investment in industry should be increased because this is what would happen if the law of value operated without hindrance, is plainly contradictory. However, from Preobrazhenskii's analysis of the goods famine it is apparent that he perceived the mechanics of world 'law of value' operation in the same manner as many non-Marxist economists.

3.9 - REPRODUCTION SCHEMES

The equilibrium condition which Preobrazhenskii claims Marx discovered in simple reproduction was the following:

$$Iv + Is = IIc$$

However in concrete capitalism this condition was violated, and in fact there was a different equilibrium condition. Preobrazhenskii's work in this area was thus an attempt to discover the equilibrium condition which corresponded to the current transition period of the Soviet economy.

The analysis of equilibrium in present day Soviet economy, according to Preobrazhenskii in 'Khozyaistvennoe ravnovesie pri konkretnom kapitalizme i v sisteme SSSR', necessitates three sectoral divisions as follows: 1) the state sector; 2) The private capitalist sector; 3) simple commodity production.⁵⁴ The latter two sectors make up what is called 'private economy' as a whole. The form of the schemes corresponding to this are thus:

1) state sector:

$$\begin{array}{l} Ic + Iv + \text{surplus product} \\ IIc + IIv + \text{surplus product} \end{array}$$

2) capitalist sector:

$$\begin{aligned} &Ic + Iv + Is \\ &IIc + IIV + IIs \end{aligned}$$

3) petty bourgeois sector:

$$\begin{aligned} &Ic + \text{consumption fund} + \text{surplus product} \\ &IIc + \text{consumption fund} + \text{surplus product} \end{aligned}$$

Further on in the same work Preobrazhenskii gives the equilibrium conditions for the entire Soviet economy. They are:

- 1) Given a discrepancy between world and domestic industrial prices, economic equilibrium with expanded reproduction can only be brought about on the basis of nonequivalent exchange with the private sector;
- 2) The volume of accumulation in the state sector is not arbitrary, but subject to 'iron laws of proportionality'. This second condition has to do with the proportions of accumulation needed to maintain equilibrium after the first condition has been satisfied. Preobrazhenskii warns that if the required proportions are not achieved in planned fashion the law of value will 'burst through with elemental force';⁵⁵
- 3) This condition has to do with the extent of Soviet participation in the world division of labour and the specific conditions under which this participation takes place. Preobrazhenskii outlines the following scheme corresponding to the state sector of the Soviet economy:

I 2100c + 1400v + 1400surplus product (700 to the accumulation fund; 700 to the nonproductive consumption fund)

II 3550c + 1775v + 1775 surplus product (887.5 to the accumulation fund; 887.5 to the nonproductive consumption fund)

These numbers are based very roughly on the actual proportions of state economy in the USSR for 1925/6. In this scheme Preobrazhenskii assumes that half of IIc, 1775c, is reproduced through exchange with petty bourgeois economy. How can the other half be reproduced? The answer is, according to Preobrazhenskii, through foreign trade. If the state sector has a shortage of 400 million rubles then it must export consumer goods from the peasant economy valued at 200 million rubles (\$100 million), since to produce this foreign equipment internally would cost 400 million rubles and would thus be clearly irrational.⁵⁶

- 4) Proportionality in distribution of labour and exchange between state and private economy. Consumer goods are exported, equipment imported, and the sellers of the consumer goods purchase the goods produced by the imported equipment. However, Preobrazhenskii notes that 'whether or not recourse to the foreign market is practically possible under present conditions is another question'.⁵⁷
- 5) Systematic growth of wages;
- 6) Systematic reduction of prices of output of state economy in order to return to normal world market prices;
- 7) Gradual absorption of the country's excess population by the developing state and agricultural economies.

All seven of these equilibrium conditions show how closely the development of socialism is connected with the necessity 'to make a breach in our socialist isolation and to rely in the future on the material resources of other socialist countries'.⁵⁸ However, the idea of receiving (free?) resources from other socialist countries and the notion of engaging in trade on the world market are two quite different possibilities. Throughout 'Khozyaistvennoe ravnovesie v sisteme SSSR' Preobrazhenskii stresses the need for foreign economic relations, but this is clearly trade with capitalist countries, with the USSR offering a fair exchange of goods which it has produced. Right at the end of this work, however, he mentions the material resources of other socialist countries.

This section reveals that Preobrazhenskii was concerned very much with the question of achieving equilibrium in the Soviet economy. It also shows that he took seriously the question of the relation between the private and state sectors in achieving an equilibrium, and that he was against isolationism. As to whether the socialist revolution would have necessarily to spread before the building of socialism could be begun, I believe he remained ambiguous. In relation to markets this shows that Preobrazhenskii took seriously the idea of balanced exchange between markets, domestic and overseas, and used Marx's reproduction schemes to attempt to calculate Soviet trade requirements.

3.10 - THE QUANTITY THEORY OF MONEY

The quantity theory of money has a long history going back at least to Hume and Ricardo. Throughout its history it has been subject to many reformulations, although it has remained a theory concerned with four interconnected variables: the quantity of money in circulation, its velocity of turnover, the general price level, and the the number of transactions which occur/the aggregate level of production. This can be expressed as follows:

$$MV = PT$$

This equation only becomes a theory when a causal sequence is proposed. Traditionally it was held that an increase in M would lead to an increase in P, since V and T would remain constant. However, this is only an assumption. An increase in M could lead to the equilibrium state being re-established either through a decrease of V (Steuart), an increase in T (Keynes), an increase in P (Friedman), or certain combinations of these changes. Which particular variable(s) change cannot be answered endogenously.

Marx discusses the quantity theory of money at some length in chapter two of *A Contribution to a Critique of Political Economy* of 1859. He uses the writings of Hume, Ricardo, J.S. Mill, James Steuart, and Thomas Tooke as material through which to present his own ideas on this topic, although his ideas are not particularly original and, as he admits, are based on the works of Steuart, Tooke, and to some extent Ricardo. The basic view which Marx wishes to refute is that the prices of commodities are in some sense determined by the volume of money in circulation, ie that the causal sequence runs from M to P. Hume is taken by Marx as the most important exponent of this view.⁵⁹ Marx posits two basic criticisms of this view, which can be summarised as follows:

- 1) the fact that gold is both a commodity and a means of circulation;
- 2) that V does not remain constant.

The first criticism used by Marx states that there is a fundamental difference between using precious metals as money and using paper notes as money. If, for example, gold is used as

the universal equivalent, then its value cannot be determined in a purely arbitrary manner. Marx quotes Ricardo to the effect that the value of gold is determined by the labour-time taken to produce it. According to Marx Hume's theory relies on the notion that the value of gold is determined by the proportion of its volume compared to the volume of commodities, ie the balancing of the two against each other.⁶⁰ If Hume's view is accepted, then it follows that an increase in the quantity of gold will *ceteris paribus* result in a fall in its value. However, Marx's criticism relies on the dual nature of gold and the fact that its value is determined by the labour-time taken to produce it. Instead of the prices of commodities depending on the volume of money in circulation, the volume of money in circulation is dependent on the prices of commodities, since gold is also a commodity and its production will thus vary according to its price. According to Marx's theory of price, its price will be determined by its value mediated through the distribution of profit on the basis of the organic composition of capital and further mediated by the fluctuations of supply and demand. Since gold is a commodity with real value its production cannot be increased arbitrarily, and thus the amount of gold in circulation is dependent at least partially on how much gold is produced as a commodity. Thus Marx writes:

The quantity of means of circulation employed in a country is thus determined by the value of the standard of money on the one hand, and by the aggregate of the exchange values of commodities on the other.⁶¹

If the value of the standard of money is exogenously determined, then the causal sequence runs from P to M.

Marx's second criticism holds that the velocity of circulation of money does not necessarily remain constant when the amount of currency in circulation is increased. Drawing on James Steuart, Marx claims that if more gold is in circulation than is required, then it will be hoarded or turned into luxury items, ie it will not circulate as money.⁶² This can be recast to say that an increase in the amount of money in circulation will result in a decrease in its circulation until the original

equilibrium state is achieved. Again this relies on the fact that gold is also a commodity, ie has intrinsic value, and can thus be withdrawn from circulation without the withdrawer forfeiting any value. Marx sums up his position as follows, using Tooke's *History of Prices* of 1823 as supporting evidence. The direct correlation between prices and the quantity of money presupposed by Hume's theory, with the chain of causation running from M to P, is purely imaginary. Continued investigation into the history of prices compelled Tooke, even though he was originally an adherent of Hume's theory, to recognise that:

...increases or decreases in the amount of currency when the value of precious metals remains constant are always the consequence, never the cause, of price variations, that altogether the circulation of money is merely a secondary movement and that, in addition to serving as a medium of circulation, money performs various other functions in the real process of production.⁶³

3.11 - THE THEORY OF DEPRECIATING CURRENCY

Preobrazhenskii is well known for his idea of using inflation to tax the rich and his advocacy of 'the end of money' during War Communism. In *Finansy v epokhu diktatury proletariata* of 1921 he had written that the issue of paper money by a proleterian government was necessary:

...for both countries with a highly developed capitalism and for predominantly agrarian economies with only one difference, that in the first group of countries the liquidation of paper-money circulation can occur quicker than in the second.⁶⁴

In this work Preobrazhenskii also spoke of the need to 'close all apparatuses of paper emission and to allow the monetary system to die a natural death'.⁶⁵ However, soon after Preobrazhenskii had written these words the Bolsheviks were desperately trying to resuscitate the 'terminally ill' monetary system after the declaration of NEP. In *Voprosy finansovoi politiki* of 1921 this change is shown clearly. Preobrazhenskii

writes that the first general task of financial policy is 'to achieve a stable currency', and this is to be achieved by reducing emission.⁶⁶ Previously issue of paper money was used to cover the budget deficit, and this destabilised the currency. Now planned emission is required in order to 'drill discipline' into both producers and consumers.⁶⁷

The topic of depreciating currency was the subject of quite a long work by Preobrazhenskii entitled *Teoriya padayushchei valyuty*, which was published in 1930.⁶⁸ It is noticable that at this time Preobrazhenskii seemed reluctant to engage in directly topical work, and this particular book examines the theory of currency depreciation in relation to countries which experienced this phenomenon after WWI. This work is particularly useful in that it shows how Preobrazhenskii viewed money in an economic system at some length. According to Preobrazhenskii money, for Marx, fulfils four basic functions. They are:

- 1) a measure of value and a scale of price;
- 2) a means of circulation;
- 3) a store of value;
- 4) a means of payment.⁶⁹

However, it is important to point out that Preobrazhenskii, following Marx, differentiated between gold as the universal equivalent and paper money, whose function was merely to represent gold and other precious metals such as silver. At this time the gold standard was still important. Preobrazhenskii writes:

Marx showed that the ideal for a commodity economy is metallic money, because physically it is the most suitable for fulfilling the functions of monetary trade in an economy where the spontaneous regulator is the law of value.⁷⁰

According to Preobrazhenskii paper money is a suitable form of money for the internal circulation of a country, but could not be used for circulation between countries. For this purpose gold was required. This is in concord with Marx, who wrote that 'paper notes are money of the society, whereas gold and silver are money of the world'.⁷¹ From the point of view of investigating conceptions of the market the theoretical

framework from which Preobrazhenskii explains why a currency depreciates is most revealing. In this section I try to construct from the positions Preobrazhenskii sets out in this work his conception of the relation between the quantity of money in circulation and the rate of depreciation of the currency in order to yield a version of the quantity theory.

Preobrazhenskii claims that the two basic factors which determine whether a currency will depreciate or not are the rate of emission and the scale of commodity-exchange.⁷² Elsewhere in this work he writes that 'a third factor which influences the necessary quantity of money in circulation is the velocity of money turnover (*bistrota oborota deneg*)'.⁷³ Given that currency depreciation is manifested in price increases, Preobrazhenskii presents four related variables in his theory of currency depreciation. They could be represented thus:

$$MV = PT$$

where M = the quantity of money (related to the rate of emission), V = the velocity of money turnover, P = the price level, and T = the scale of commodity-exchange. This is similar to, although not identical with, the quantity theory equation given earlier.

This type of equation is clearly what Preobrazhenskii has in mind, because he lists four examples or basic scenarios which could occur with regards to stabilising a depreciating currency which illustrate this. In the first scenario, if the amount of commodity-exchange in a country is held constant and if paper-money emission is suspended, price stabilisation will be achieved 'completely spontaneously'. In terms of the equation, if T and M are held constant, then P will be constant.⁷⁴ In the second scenario there is not only a cessation of monetary emission, but also a widening of commodity-exchange, and in these conditions stabilisation will be achieved still faster than in scenario one. In the third scenario the expansion of commodity exchange exceeds the emission of paper money, and thus stabilisation can be achieved even without a reduction of paper-money emission. According to Preobrazhenskii scenario three corresponds to Russia after the adoption of NEP. In the fourth

scenario paper-money emission proceeds in conditions where commodity-exchange is in protracted decline. If this decline continues even after the suspension of emission, then stabilisation is impossible to achieve as a result of suspending emission and inflation will be the inevitable result.⁷⁵

Using this framework Preobrazhenskii explains the recovery in Russia after the adoption of NEP as follows. In the summer of 1921 there was still a fast growth in the rate of emission of paper money, but after several months the ruble was stabilised:

The main reason was the sharp expansion of monetary commodity-exchange, connected with the restoration of free trade and with the increased capacity for commodity-exchange.⁷⁶

In another part of this work Preobrazhenskii adds another factor to the four already given in the classical quantity theory - the amount of non-monetary accounting.⁷⁷ This factor is obviously connected to the specific conditions of the USSR in the 1920s, where pre-capitalist forms were common and monetary relations were less than totally stable. However, he does not use this factor in the four scenarios he outlines, which perhaps indicates that he thought it of less importance.

This explanation by Preobrazhenskii is very close to the classical quantity theory outlined above. In fact it would be fair to say that Preobrazhenskii is using the quantity theory to explain events in Russia during NEP. This it is clear that Preobrazhenskii's conception of how 'the market' functioned in relation to the circulation of money was very similar to orthodox 'bourgeois' conceptions.⁷⁸

Preobrazhenskii also discusses the question of how the quantity of money which is required for circulation, taking the word 'circulation' (*obrashchenie*) in its wide meaning, is actually determined. Six factors play a role: 1) the aggregate trading mass; 2) gold commodity prices; 3) the speed of monetary turnover; 4) requirement for money as a means of payment; 5) the quantity of non-monetary accounting; 6) the level of accumulation.⁷⁹

Preobrazhenskii's example, which he gives further on in the work, is as follows. All circulation in a country is demanded in

conditions where commodity-turnover equals X, the function of money as a means of circulation demands quantity Y, where monetary accumulation equals Z, with non-monetary accounting equaling T, and with speed of turnover equal to U.⁸⁰ Assume that a country has ten milliard rubles for a period of time. With a stable currency if the speed of circulation is increased ten times, if accumulation demands three hundred million, if non-monetary accounting equals one hundred and fifty million, and money as a means of payment requires two hundred and fifty million, then the calculation will be as follows:⁸¹

$$10 \text{ milliard}/10 + 300 \text{ million} + 250 \text{ million} - 150 \text{ million} = 1400 \text{ million}$$

or in algebraic terms:

$$Y/U + Z + X - T = r$$

If there is twice the amount of paper money in circulation 'necessary for representing gold (*predstavitel'stva zolota*)', then its value will depreciate to half the original value, because only with such a depreciation will it correctly represent the real quantity of gold which is necessary for circulation.⁸²

It is clear from my exposition that Preobrazhenskii does not really question the basic assumptions and framework of the classical quantity theory of money in this work. He is concerned with paper money, and thus Marx's criticisms of the quantity theory based on the dual nature of gold could not stand in this case. However, Marx seems to agree with Steuart's version of a Law of Reflux, something which Preobrazhenskii does not mention in this work.⁸³ In my opinion Preobrazhenskii seems to agree with the classical quantity theory to a greater extent than Marx. This may be due to the fact that Preobrazhenskii was not in a situation which allowed the 'luxury' of theoretical speculation to the degree afforded to Marx, but was rather attempting to implement policy, or it may be due to the fact that the situation in Russia in the 1920s actually proved the

classical quantity theory proposition that the causal sequence runs from M to P.⁸⁴

Preobrazhenskii's explanation of currency depreciation in France after WWI, which reinforces my argument above, is as follows. Huge reserves were issued by the French state bank, an act connected to the economics of the war period, and for a while this did not weaken the franc. However, France increased its emission for circulation from 27.6 milliard to 34.7 milliard, ie by more than 25%: 'As a result, despite the increase in commodity-turnover...at the end of 1919 depreciation had already reached 118%'.⁸⁵ In a period of war it is necessary to increase the state income, and this increase can be obtained from three sources: increasing taxation, borrowing from future income, and increasing emission. When the first two methods are not longer sufficient, the third is invariably used. Preobrazhenskii labels inflation an 'irrational and anarchic method' of reducing social consumption and central government spending, and he notes that it achieves its aim by creating an illusion of increasing wages.⁸⁶ However, he does not outline a rational and planned method of achieving this result.

Preobrazhenskii's attitude to inflation and the depreciation process had changed markedly from his pre-NEP views. From welcoming inflation as a sign of the coming end of capitalism, he writes in 1930:

All the working population and all small proprietors, ie the majority of the population, are suffering from the side effects of a depreciating currency and consequently are against the policy of inflation.⁸⁷

For capitalist society inflation has a large advantage and is increasingly indispensable, since it achieves the desired result 'in confusion, imperceptibly, and in a spontaneous manner'. Preobrazhenskii notes that 'the budget and the regulation of monetary circulation is the area where bourgeois society has its plan and economic foresight', thus implying that in socialism a qualitatively different type of plan was required.⁸⁸

Preobrazhenskii's writings after approximately 1928/9 seem to become more technical, and less concerned with overtly political questions or questions of the overall nature and

theoretical description of the Soviet economy. It is not difficult to postulate a reason for this. A good example of this later type of writing is 'Vtopaya pyatletka legkoi promishlennosti' published in 1932 in *Planovoe khozyaistvo*. This deals with technical problems of producing and co-ordinating raw materials for light industry, and with finding the most rational uses of resources and maximal levels of production. The closest Preobrazhenskii comes to proposing any kind of theoretical principle is when he discusses the geographical distribution of light industry. He writes that Soviet power had received as its inheritance a geographical distribution of light industry which was in 'glaring contradiction' with the basic line of the economic policy of the USSR and the 'spirit of socialist distribution of productive forces':

All cotton industry was sited at a distance of four thousand kilometres from the basic regions of raw materials. The basic mass of the flax industry was situated in the territory of Ivanovchoi *oblast'*, at a time when the main mass of flax fibre production was in the Western regions...which do not have flax enterprises.⁸⁹

Instead of this Preobrazhenskii urges that productive enterprises should be sited as close to their raw material bases as possible. Whether this is a particularly 'socialist' principle or not is open to debate, but it shows that by this time Preobrazhenskii had stopped openly discussing the major questions of socialist economic policy which had so fascinated him during NEP.

3.12 - CONCLUSION

In the first section of this chapter I compared Preobrazhenskii's work with Marx's original statements on the subject of monopoly instruments in the transition. It seems to me that Marx's ideas are very general with respect to credit, and thus in this general sense it can be said that Preobrazhenskii followed Marx. As regards Preobrazhenskii's conception of the market this shows that he believed that market

relations would already be partially negated when the dictatorship of the proletariat first came to power. As regards the quantity theory of money, I argued that Preobrazhenskii was more sympathetic to the classical version of it than Marx, although since Preobrazhenskii was dealing with paper money not backed by gold it is difficult to make a definitive comparison using this material. This element of market economics was thus used uncritically by Preobrazhenskii.

Preobrazhenskii's use of the quantity theory show that his criticisms of the market are fundamentally external. This means that, as regards microeconomics, Preobrazhensky's ideas of how the market actually functions are not really any different from that of an orthodox 'bourgeois' economist. In his analyses of concrete phenomena, for example the goods famine, he called upon the traditional notion of supply and demand being harmonised by the market mechanism, and argued that the state must restore the equilibrium which would have been restored in a market economy by the law of value. In relation to the debates over the law of value I argued that there was a great deal of confusion over what this law actually was, with some theorists using it as a synonym for the market mechanism of price equilibration. Preobrazhenskii's statement that the market represents society's effective demand shows that he viewed the market in the traditional Marxist sense of capacity, rather than in the sense of being a mechanism for achieving optimal production. However, his work using Marx's reproduction schemes demonstrates that he still took seriously the categories Marx had developed for explaining the movement of capitalist production.

NOTES

- 1 Karl Marx, *Capital* vol.III (Lawrence & Wishart, 1962), p.593.
- 2 Ibid, p.428.
- 3 Rudolf Hilferding, *Finance Capital* (London: RKP, 1981), p.21.
- 4 Ibid, p.62.
- 5 Ibid, p.206.
- 6 Ibid, p.234.
- 7 Ibid, p.367.
- 8 Preobrazhenskii, *The New Economics* (Oxford, 1965), p.214.
- 9 Ibid, p.164.
- 10 Ibid, p.106.
- 11 Ibid, p.110/1.
- 12 Ibid, p.104.
- 13 Ibid, p.137.
- 14 Preobrazhenskii, *The Decline of Capitalism* (Sharpe, 1985), p.22.
- 15 Ibid, p.97.
- 16 Preobrazhenskii, *The New Economics*, p.210.
- 17 Ibid, p.213.
- 18 Ibid, p.215.
- 19 Ibid, p.213/4.
- 20 Preobrazhenskii, *The Decline of Capitalism*, p.10.
- 21 Ibid, p.12. In this argument Preobrazhenskii ignores the idea of comparative advantage. The world market acts so as to allow coal production in areas where costs are lowest, and England may not be one of these places at this particular market conjuncture. According to the theory this shows the efficiency of the market mechanism, not its failure. It is possible to argue that comparative advantage is misleading because in many cases it may be achieved by an initial act of investment which is irrational from within the market perspective, but which then allows further investment to be fruitful in profit terms. However, Preobrazhenskii makes neither of these arguments.
- 22 Preobrazhenskii, *The Decline of Capitalism*, p.38.
- 23 Ibid, p.39.
- 24 Preobrazhenskii, *The New Economics*, p.168. This passage contains an implicit distinction between 'capitalist markets' and 'private markets'.
- 25 Ibid, p.171.
- 26 Ibid, p.172.
- 27 Ibid, p.173.
- 28 Ibid, p.166.
- 29 Ibid, p.167.
- 30 Ibid, p.174.
- 31 Stetskii, 'Stenogrammy dokladov chitaemikh v kommunisticheskoi akademii' in VKA, no.15 1926, p.160.
- 32 Bogdanov, *ibid*, p.213.
- 33 Preobrazhenskii, *The New Economics*, p.147/8.
- 34 Bogdanov, 'Stenogrammy dokladov chitaemikh v kommunisticheskoi akademii' in VKA, no.15 1926, p.214.
- 35 Preobrazhenskii, *The New Economics*, p.95.
- 36 However, the question may then be asked: if the law of value achieves equilibrium spontaneously while obeying the law of labour-expenditure, why bother to try to replace it? The law of planning will only achieve the same equilibrium state but

by another method. By positing a third more fundamental law Marxists discredit their own arguments against the law of value, since all derivative laws must obey it. Another problem surrounds the use of the phrase 'law of value' in Marx (and Engels) compared with Bolsheviks in the 1920s. In my opinion Marx does not give great significance to the phrase 'law of value' in the volumes of *Capital*. He does give great significance to the notion of value, which he breaks down into use-value and exchange-value. In volume I of *Capital* (Lawrence & Wishart, 1954) Marx writes of the 'general law of value', and claims that 'the law of value of commodities ultimately determines how much of its disposable working-time society can expend on each particular class of commodities' (p.336). He also speaks of 'the law of the determination of value by labour-time' (p.302), and notes that 'the law of value...only begins to develop itself freely on the basis of capitalist production' (p.502). In his supplement to volume III of *Capital* (Penguin, 1976) Engels, who seems to have been more taken with the phrase 'law of value' than Marx, writes that the law of value is what ultimately governs economic processes in a capitalist economic order, and this means that 'the value of commodities is the specific historical form in which the productivity of labour which ultimately governs all economic processes has its determining effect' (p.1032). However, in apparent contradiction to Marx he also writes that Marx's law of value applies universally to the entire period of simple commodity production: '...commodity exchange dates from a time before any written history, going back to at least 3500 BC in Egypt and 4000 BC or maybe 6000 BC in Babylon; thus the law of value prevailed for a period of some five to seven millenia (p.1037).' So much for Marx's claim that the law of value 'only begins to develop itself freely on the basis of capitalist production'. From this ambiguity in Marx and Engels stems the NEP debate about what the law of value is.

- 37 Preobrazhenskii, *From NEP to Socialism* (New Park, 1973), p.6.
- 38 Ibid, p.13.
- 39 Ibid, p.43.
- 40 Ibid, p.44.
- 41 ibid, p.54/5.
- 42 Ibid, p.60.
- 43 Ibid, p.60.
- 44 Ibid, p.77.
- 45 Ibid, p.83/4.
- 46 Ibid, p.87/8.
- 47 Ibid, p.88/9.
- 48 Preobrazhenskii, 'Economic Policy of the Proletariat in a Peasant Country', translated in *The Crisis of Soviet Industrialisation - Selected Essays* (M.E. Sharpe, 1979), ed. Donald Filtzer, p.21/2.
- 49 Preobrazhenskii, 'Economic Equilibrium under Concrete Capitalism and in the System of the USSR, translated in ibid, p.168.
- 50 Preobrazhenskii, 'Economic Notes I - On the Goods Famine', translated in ibid, p.33.
- 51 Ibid, p.35.
- 52 Preobrazhenskii, 'Economic Notes II', translated in ibid, p.42/3.

- 53 Ibid, p.64/5.
- 54 Preobrazhenskii, 'Economic Equilibrium under Concrete Capitalism and in the System of the USSR, translated in *ibid*, p.174.
- 55 Ibid, p.196/7.
- 56 Ibid, p.201.
- 57 *ibid*, p.210.
- 58 Ibid, p.230.
- 59 Karl Marx, *Collected Works 29* (Lawrence & Wishart, 1987), p.414.
- 60 Ibid, p.395.
- 61 Ibid, p.401.
- 62 Ibid, p.397.
- 63 Ibid, p.415.
- 64 Preobrazhenskii, *Finansy v epokhu diktatury proletariata* (Moscow: NKF, 1921), p.40.
- 65 Ibid, p.43.
- 66 Preobrazhenskii, *Voprosy finansovoi politiki* (Moscow, 1921), p.18.
- 67 Ibid, p.24.
- 68 The British Museum copy of this work seems to have been donated by the author himself, as it contains a signed dedication.
- 69 Preobrazhenskii, *Teoriya padayushchei valyuty* (Moscow, 1930), p.16.
- 70 Ibid, p.15.
- 71 Marx, *Collected Works 29*, p.398.
- 72 Preobrazhenskii, *Teoriya padayushchei valyuty*, p.54.
- 73 Ibid, p.21.
- 74 This is true only if V is also constant.
- 75 Ibid, p.104/5.
- 76 Ibid, p.51.
- 77 Ibid, p.22.
- 78 To compare take (for example) a 1979 textbook entitled *Monetarism: Theory, Evidence, and Policy* (Robertson, 1979) by Vane & Thompson, where the rate of inflation equals the rate of monetary expansion minus the rate of growth of output - $P = M - O$ (p.75). The quantity theory in general discounts the possibility that the rate of monetary expansion could affect the rate of growth of output, ie it assumes that the latter is a function of 'real' factors only.
- 79 Preobrazhenskii, *Teoriya padayushchei valyuty*, p.22.
- 80 Ibid, p.76.
- 81 Ibid, p.79/80.
- 82 Ibid, p.20.
- 83 The Law of Reflux can be expressed as: currency based on credit returns to its point of departure. In *A Contribution to a Critique* Marx quotes from Steuart a passage in which this idea is contained but does not criticise it (p.397).
- 84 A response to this might be: how can you question a theory so obvious as the quantity theory? Isn't it apparent that an increase in the money supply will decrease its value, holding all other factors constant? Perhaps, but Keynes (for example) did provide a criticism. An extreme statement of his position can be found in the *The General Theory of Employment, Interest, and Money* (MacMillan, 1973). Given certain simplifying assumptions, an increase in the quantity of money will have no effect on prices so long as there is any

unemployment: '...employment will increase in exact proportion to any increase in effective demand brought about by the increase in the quantity of money; whilst as soon as full employment is reached, it will thenceforth be the wage-unit and prices which will increase...' (p.295). While Keynes goes on to qualify this extreme statement of his view, it is clear that he brings in other factors which complicate the direct relation between the quantity of money and the price level postulated by the classical quantity theory, ie that variations in the level of T could offset increases in M. Of course, Preobrazhenskii cannot be criticised for not foreshadowing Keynes, but his agreement with the classical quantity theory shows that Marxism disagrees with classical economics to a lesser extent than would perhaps at first be assumed. This shows that in this case Marxists have very little in the way of an internal critique of 'bourgeois' economics.

85 Preobrazhenskii, *Teoriya padayushchei valyuty*, p.161.

86 Ibid, p.167.

87 Ibid, p.166.

88 Ibid, p.168.

89 Preobrazhenskii, 'Vtopaya pyatletka legkoi promishlennosti', in *Planovoe khozyaistvo*, no.3 1932, p.54.

4.1.1 - INTRODUCTION

This chapter will examine conceptions of the market which existed within the state planning organ Gosplan in the 1920s by examining three leading figures from this institution: S.G. Strumilin on the one hand, and V.G. Groman and V.A. Bazarov on the other. They are chosen because they represent different currents within Gosplan, one of which was politically triumphant at the end of the decade.

Stanislav Gustavovich Strumilin (1877-1974) was originally a Menshevik, but joined the Bolsheviks in 1923. As a student he studied at the St Petersburg Polytechnical Institute under Struve and Tugan-Baranovskii. Lenin appointed him to the staff of the State Planning Committee in 1921, and he became a leading figure (if not the leading figure) in the economics of planning in the USSR. He was involved in the first GOELRO plan and in the development of the first five-year plan at the end of the 1920s. He went on to win a Stalin prize in 1942 for studies of regional economic development in the Urals, and became one of the most famous of all Soviet economists.

Vladimir Aleksandrovich Bazarov (1874-1939) studied chemistry at Moscow University as a student. Politically he was close to Menshevism and was criticised by Lenin for 'Machism'. He edited a Menshevik paper in Khar'kov in 1919, and in the 1920s he worked closely with his associate Groman. Together with I.I. Stepanov Bazarov translated *Capital* into Russian. He was arrested in 1930 but was not put on open trial.

Vladimir Gustavovich Groman (1874-1937?) was a member of the RSDLP from 1900 and a Menshevik by 1905. He worked as a statistician in Tver' and Penza, and from 1921 became a leading figure in Gosplan. He became a member of the Presidium of Gosplan as well as a member of the council of the TsSU. Arrest followed in 1930, and he was sentenced to ten years imprisonment in the 'Menshevik' trial of March 1931. Along with Bazarov and Strumilin, Groman produced the *Kontrol'nye tsifry na 1925/6* published in July 1925, which was revised due to harvest problems and reissued in October.

4.1.2 - STRUMILIN AND NON-MONETARY ACCOUNTING

In *Denezhnaya politika sovetskoi vlasti* of 1928 Yurovskii reports on an interesting debate which took place on the eve of NEP about the question of non-monetary accounting. Strumilin was one of the participants in this debate, along with Vainshtein, Varga, and Chayanov. According to Yurovskii Strumilin argued for the replacement of the ruble with labour values (*trudovoi tsennosti*), which were to be the new socialist unit of account.¹ As a standard measure Strumilin proposed to adopt 'the value of the labour product of one normal worker in the primary tariff category fulfilling his work norms by 100%'.² Yurovskii mocks such attempts as naive.

Yurovskii relates that for Strumilin the problem of the plan is the problem of achieving the maximum satisfaction of human needs with minimum labour outlays. To tackle the problem of satisfying human needs some measure of utility (*poleznost'*) is required, since the satisfaction of a need is a utility. According to Strumilin the utility of a unit of any good is a definite function of its quantity, and he suggests as a first approximation to this function the following proposition: while the means of satisfaction grows in geometric progression, the degree of satisfaction will grow only in arithmetic progression. Consequently, every new unit of labour expended gives less additional utility, and this means there must be a moment where the additional increase of labour gives results which do not repay this expense in terms of utility. This gives a natural economic limit to widening production under a given level of productivity.³

Yurovskii notes the resemblance of Strumilin's position to that of Jevons, Marshall, and other neo-classical economists, who claim that labour will be carried on until the increment of utility from any of its employments just balances the increment of pain. Thus the implication is that Yurovskii has caught Strumilin utilising the marginal utility doctrine. In relation to markets, Yurovskii notes that in conditions of commodity-money economy the process of adaption of outlays to requirements occurs on the market. Strumilin proposes that in a socialist economy the same task can be accomplished by 'coordinating

material coefficients of comparative significance of different needs', and by studying the question of how changes in utility dependent on changes in the quantities of goods serve to satisfy related needs.⁴ Yurovskii notes that attempts to construct curves or 'equations of demand' based on empirical material have a long history in economic literature, and thus again implies that Strumilin is using a neo-classical approach. In such a system changing evaluations under the influence of changes in demand would need to be quickly registered to the appropriate body, and the 'social shops' which Strumilin proposes would fulfil in such a scheme the customary functions of the retail market, with the difference that evaluations in these 'markets' are established exclusively on the basis of labour outlays.⁵

This scheme resembles somewhat the market socialism of Lange, since planners would be required to construct supply/demand tables and to empirically collect data on consumer needs. In this sense such a scheme simply mimics the functions of the market in a planned manner, and it also utilises a version of the law of diminishing returns. Thus in the pre-NEP period Strumilin's version of socialist planning (as presented by Yurovskii) was quite different to the one which triumphed after NEP.

4.1.3 - PRICE FORMATION

One of the most interesting articles which Strumilin wrote during the NEP period from the point of view of investigating his conception of the market was entitled 'Protsessy tsenoobrazovaniya v SSSR' and appeared in *Planovoe khozyaistvo* in three consecutive issues in 1928. Strumilin begins by repeating the doctrine that in capitalist society the average level of prices viewed as a whole is determined by the value (*stoimost'*) of the goods involved, ie by the sum of socially necessary labour outlays materialised in the commodity mass, although individual prices may differ from individual values. Distribution in capitalist society is realised through spontaneous competition between buyers and sellers on markets,

and in this struggle it is necessary to distinguish the following class groups.

Capitalists struggle among themselves for buyers on commodity markets, whereas the proletariat appear on these markets only as consumers.⁶ If there is a disproportion between the supply and demand for basic goods required by the proletariat, ie if there is insufficient supply, then the law of supply and demand will force the price payed for such goods higher than their value. In turn, if the supply of luxury goods consumed by classes other than the proletariat is plentiful, then competition between sellers will result in prices falling below values, and in this way a redistribution of national income between classes can occur. Another way which prices can deviate from values is through the tax policy of the state. Excise duties may raise prices above values, and thus result in a redistribution of the national income. Monopoly can also lead to prices deviating from values. Strumilin writes:

Any capitalist trust, monopolising supply markets for certain goods, establishes prices for these goods according to arbitrary rule, since it does not encounter sufficiently strong competition.⁷

However, this 'arbitrary rule' is not infinite. Monopolists cannot set each price as they please, because the laws of the market limit this arbitrary rule through the relation that, the higher the price that is set, the less product the monopolist sells. Strumilin notes that experience has shown that monopolists can fix prices even in conditions of severe contraction of production.

Strumilin traces the basic deviation of price from value inherent in capitalist society to the law of average profit norms (*zakon srednei normy pribyli*). Other deviations like the ones discussed above may occur, but are not necessary for capitalism to function. However, since the organic composition of capital in different branches of production differs, prices must deviate from values to counterbalance this, and this occurs through the law of average profit.⁸ However, this law in Soviet conditions is 'already a vestige of the past'. Strumilin notes that the question whether prices would equal values in communism

is redundant, since price as a category would cease to exist. However, in the transition period this question is still relevant. The Soviet state can and will fix a sharp deviation of price from value, for example in the case of agricultural machinery a price is set below the value with the aim of encouraging agricultural production. In the interests of industrialisation fuel prices are reduced, and in class interests prices of luxury goods are increased.⁹ Thus this policy may increase the deviation of values from prices in the transition period, and this is perfectly legitimate.

According to Strumilin full coordination of prices with values, and thus to the law of value, would not create any special stimuli for changes in established production proportions:

...a course of uniting planned prices with labour values would hardly coordinate the *reconstruction* tasks of the transition period to socialism. In all cases it would signify a refusal of an active policy of large production changes in the private sector...¹⁰

Strumilin continues by saying that in order consciously to plan price manoeuvres of this type, distinct knowledge of prices and labour values are required. If it is necessary to widen flax sowing by means of a price policy, then the value of flax at a given time must be known. However, Strumilin does not outline how to obtain the labour value of a given amount of flax, but does claim that all the elements necessary for such an understanding have already been accumulated in sufficient quantity.¹¹

Strumilin presents a very interesting table which is entitled 'basic elements of wholesale prices for 73 trusts in 1925/6', and this table gives a breakdown in terms of constant capital (c), variable capital (v), and surplus value (s) in percentage form. The reasoning summarised in the table implies that only knowledge of market price is required to influence production priorities, since no data about values is given. This table is shown overleaf:¹²

BRANCH ELEMENTS	METALS	COAL	ELEC.	TEXTILE	CHEM.	OIL	SUGAR	FOOD	TOTAL
Constant capital	54.6	43.1	47.6	50.5	58.4	52.0	41.2	19.3	45.8
Variable capital	38.3	46.0	32.2	27.1	20.7	20.8	7.6	4.0	24.5
Surplus product	7.1	10.9	20.2	22.4	20.9	27.2	51.2	76.7	29.7
created value									
v + s	45.4	56.9	52.4	49.5	41.6	48.0	58.8	80.7	54.2
accumulation norms									
(s:v) %	18.5	23.7	62.7	82.7	101.1	130.8	673.7	1917	121.2

Strumilin notes that this table reveals a strikingly diverse c + v + s composition of the various branches, with accumulation norms ranging from 18.5% to 1917.5%. Strumilin obtains these figures by aggregating materials, fuel, transport, and amortization into category c, wages into v, and profit, interest, rent, taxes, and excise duties into s. However, the absolute quantities of these elements are taken from market prices (in *chervonets* rubles) and thus this breakdown gives no information as to values. This is apparent from Strumilin's statement that the average newly created 'value' is 54.2% of the market price of the product.¹³ Strumilin notes that the widely diverse accumulation norms reveal that the Soviet state does not follow the law of average profit norms.

4.1.4 - THE MARKET

An insight into Strumilin's understanding of the market in relation to planning can be obtained from *Doklad v s"ezdu planovikh rabotnikov* given on 8 March 1929 entitled 'Sotsial'nie problemy pyatiletki'. In a section called 'market problems' Strumilin writes:

Problems of market equilibrium in conditions of planned economy in current calculation is reduced to projecting such prices for the realisation of the mass of commodities produced under which the demand of wide markets fully covers possible supply.¹⁴

But market demand is in turn determined by the projected growth of income of the population, ie the projected tempo of growth of wages, the increasing productivity of agriculture, and a whole series of other plans which are conditioned by the growth of welfare and the sum removed from individual incomes by taxation. All these elements, which determine in contemporary accounting the relation of supply to demand, are regulated by the plan. Therefore if at a given moment a goods famine is experienced this should be viewed not as an objective necessity but as the result of insufficient skill in planning.

Strumilin states that the basic method of verifying all plans from the point of view of the demands of market equilibrium is the construction of a provisional balance of supply and demand. This task is 'somewhat complex and theoretically little elaborated', and different departments utilise different methods and thus arrive at different conclusions.¹⁵ An example of such a balance is given by Strumilin entitled 'balance of supply and demand of industrial goods' and is given in millions of *chervonets* rubles:¹⁶

ARTICLES OF BALANCE	PROVISIONAL BALANCE							'32/3 in %	
	FIRST VARIANT							'32/ 3	'27/8
	'27/8	'28/9	'29/30	'30/1	'31/2	1st optimal	1st op		
A. <u>SUPPLY</u>									
1. Stocks of goods at the beginning of the year:									
a) from producers	1250	1350	1450	1600	1750	1950	2100	156	168
b) in goods conducting channels	1630	1982	2342	2743	3174	3825	4302	235	264
TOTAL	2880	3332	3792	4343	4924	5775	6402	201	222
2. Commodity production:									
a) large industry	11292	12955	14720	16404	18265	20139	22546	178	200
b) small industry	2360	2631	2819	3038	3246	3520	3477	149	147
TOTAL	13652	15586	17539	19442	21511	23659	26023	173	191
3. Other supplies	477	429	580	780	940	1200	1255	252	263
4. Trade-transport extras	3446	3640	4053	4498	4959	5515	5937	160	172
TOTAL 1-4	20455	22987	25964	29063	32334	36149	39617	177	194

B. DEMAND

1. Organised markets;

a) for means of production	6905	8296	9314	10314	11170	12114	13234	175	192
b) for goods of consumption	1010	1100	1200	1290	1410	1520	1617	150	160

TOTAL	7915	9396	10514	11604	12580	13634	14851	172	188
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2. Wide markets:

a) for means of production	2230	2493	2806	3135	3520	4055	4400	182	197
b) for goods of consumption	6380	6631	7404	8087	8796	9551	10307	150	162

3. Other demand	406	544	678	787	884	1004	1172	247	289
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4. Stock of goods to end of year:

a) from producers	1350	1450	1600	1750	1950	2150	2300	159	170
b) in goods conducting channels	2309	2683	3137	3625	4376	5200	5940	225	257

TOTAL 1-4	20590	23197	26139	28988	32106	35594	38970	173	189
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BALANCE DIFFERENCE	-135	-210	-175	+75	+228	+555	+647	-	-
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Strumilin draws from this the conclusion that consumer markets for industrial goods in general are fully guaranteed supply. However, he notes that overall there are several balance differences which do not exceed 1-2% of the balance total. Since this sort of figure is within the margin of error of the figures obtained, Strumilin does not express any major concern with this result.¹⁷

Another table given by Strumilin shows the supply of various industrial goods on the market over a five year period.¹⁸ This table also has two variants shown - a first and an optimal variant. In the first variant (for example) tea supply grows by 272% over the five years, in the optimal variant by 359%; agricultural machines grow by 372% in the first variant and 432% in the optimal variant.

Two things are clear from the manner in which Strumilin presents this data. Firstly, that the question of deciding what growth rates to assume and why was not really discussed in such articles. These sort of questions were debated 'behind closed

doors', and consequently the reasoning proposed to support the various growth rates remains obscure. Secondly, plans were constructed in a completely un-democratic manner. Consultation was limited to a narrow group of 'specialists' within and around the Bolshevik party, and no attempt was made to involve the wider population in the planning process. In relation to Strumilin's conception of the market this section reveals that he viewed the market in terms of capacity of demand, and believed that planning could replace this type of market with calculation techniques.

4.1.5 - AGAINST BAZAROV AND GROMAN

In an article entitled 'Pervie opyta perspektivnogo planirovaniya' of 1930 Strumilin attacks the position of his Gosplan colleagues Bazarov and Groman, as well as other economists like Kondrat'ev. Strumilin quotes Bazarov arguing that 'the state must give freedom to markets in order that the process of commercial competition can determine the economic conjuncture', and that a stable currency and definite legislative acts are required if capital is to function.¹⁹ Moreover Strumilin quotes the following Bazarov passage:

...markets and *khozraschet* are essential preconditions for all possible planning...Historical experience shows that a healthy economy is possible only when every worker has a healthy interest in the results of his labour, but this is not enough: only the market allows in contemporary conditions the creation of automatic controls over the correctness of all actions, automatic calculations showing the results of the activity of every economic branch, every enterprise separately.²⁰

Strumilin responds by stating that socialism principally excludes free market elements. Calling the market a necessary precondition for all possible planning means that a price of renouncing socialism would have to be paid for such planning. By implication Bazarov is an enemy of socialism.

Strumilin emphasises that for Bazarov planning is mainly the study of market conjuncture. The balance method of planning is concerned above all with market equilibrium, and conceives of

NEP as a system where the market regulates the plan.²¹ Kondrat'ev's plan for agriculture is hostage to spontaneous tendencies within the economy, and is principally genetic in nature. Strumilin presents figures which show that Kondrat'ev's plan was overfulfilled by 2.5 times between 1924 and 1928, thus implying that such planning methods are unreliable and tend to give conservative results.²² The figures Strumilin presents are shown below in a table containing the general sum of outlay for financing agriculture of the RSFSR in millions of *chervonets* rubles:

YEAR	PLAN	FULFILMENT
1924/5	58	104
1925/6	72	157
1926/7	89	239
1927/8	106	286
1928/9	125	384
TOTAL	450	1170

In this way Strumilin attempts to show that economists like Bazarov and Kondrat'ev are hostile to socialism and that the planning methods they utilize are 'bourgeois' in spirit.

In an article in *Ekonomicheskaya zhizn'* published on 2 April 1927 entitled 'Otvét kritikam gosplana' Strumilin also criticises his critics. He complains that even though the USSR Gosplan adopted a resolution on simultaneous work on general and perspective plans, many other organs involved in the planning process have ignored it. For instance the RSFSR Gosplan decided that it must first construct a genplan, whereas Zemplan resolved that it could not construct a genplan, since to predict 10-15 years ahead was impossible and thus a limit of five years was adopted. Strumilin complains that to construct a fully satisfactory and coordinated plan under such circumstances of independence of planning organs is impossible.²³ Thus implicitly he calls for the centralisation of the planning process.

Criticising Kondrat'ev, Strumilin emphasises that plans must not be a summary of predictions, but rather a system of economic policy and economic tasks expressed in figures:

If we were in our plans to give only forecasts of objective inevitability independent of the will of economic subjects...then we would arrive at a scientific prognosis of the future. But we would not be speaking of plans.²⁴

No thought is given to constructing a plan of a solar eclipse, and likewise with capitalist crises, because they are by nature unplanned events. Planning can only occur in relation to events created by the will of planners. Thus Strumilin contrasts Kondrat'ev's conception of planning, which is based on forecasting, with his own more strident conception which emphasises the creation of tasks to be fulfilled in line with the will of planners.²⁵ In this article Strumilin also criticises the detailed calculations of Kondrat'ev, Bazarov, and Groman. For example Groman's figures show that rural welfare, according to data from the five year plan, has grown by 20%, not 30%. Strumilin disagrees. In general he is again concerned to show the conservative nature of the planning carried out by these people. This section demonstrates that Strumilin's conception of planning excluded the market completely.

4.1.6 - NEP

While Strumilin's attitude to planning in the later part of the 1920s seems clear, what about his attitude to the introduction of NEP and the reforms which accompanied this process at the beginning of the decade? Strumilin discusses the financial reforms of 1922 in an article called 'O bazise reformy' in *Ekonomicheskaya zhizn'* published on 1 June 1922. He begins by stating that the necessity and urgency of a series of financial reforms concomitant with the New Economic Policy is sufficiently clear. The main plank of these reforms concerns monetary circulation and the stabilisation of the ruble. Narkomfin plans to back the ruble with gold. Strumilin does not question the ability of gold to stabilise a currency, instead he is doubtful over whether the amount of gold which the Bolsheviks control will be adequate.²⁶

Strumilin directs attention to the pre-war Austrian experience of regulating a paper currency, which he claims shows

that satisfactory results can be achieved without accumulation of large gold reserves in the state bank. This was done through actively participating in market play with paper currency. When the currency declined in price below parity the bank played on this and bought up the cheaper goods, and when the price increased the goods were sold at a profit. The emission of paper currency was also regulated in relation to the requirements of money markets.²⁷ Thus at this time Strumilin recommended regulation of markets in a manner common to non-socialist countries, a type of planning which he would later criticise.

An article written even earlier, entitled 'Dvizhenie tsen i tarifnaya politika' published on 18 December 1919 in *Ekonomicheskaya zhizn'*, shows that at the same time as debates were occurring about the replacement of money with labour units, Strumilin was still writing about the movement of prices on Moscow and Petrograd markets, specifically in relation to tariff policy. In this article Strumilin argues against the view that the prices of products exactly reflect fluctuations in the tariff rate. He presents a table which shows movements in market prices of food rations between 1913 and 1919, parts of which are shown below:²⁸

YEAR	MOVEMENT OF RATION PRICE	
	in Moscow	in Petersburg
1913	1.0	1.0
1916	1.7	1.5
May 1917	3.9	3.5
May 1918	65.2	110.0
May 1919	407.0	845.0

He also presents a table which relates market prices with changes in the tariff rate over this period, and concludes from this data that changes in the tariff rate do not automatically produce changes in the market price. This table is shown below:²⁹

YEAR	GROWTH OF TARIFF		GROWTH OF MARKET PRICE	
	Moscow	Petersburg	Moscow	Petersburg
June 1918	-	+38	+20	+11
September 1918	+17	+39	-16	+6
February 1919	+43	+44	+19	-5
September 1919	+100	+150	+13	-

The concern which Strumilin shows for the relation of tariff rates to prices shows that even at the height of War Communism he paid serious attention to markets and their regulation. If in theory he was discussing the abolition of money, this was certainly not the case in practice.

The question of tariffs was still occupying Strumilin at the end of the decade. S.A. Bessonov had in 1928 written an article entitled 'Problema prostranstva v perspektivnom plane' in *Planovoe khozyaistvo* in which he objected to certain features of differential tariff policy. Bessonov stressed that the Fifteenth Party Congress had resolved that it was inadmissible for the party to solve problems of equilibrium by altering market prices alone. The Congress established that the correct path was by way of 'reducing the prime costs (*sebestoimosti*) of industrial products on the basis of energetically conducting rationalisation of industry', and on this basis to reduce industrial prices.³⁰ He also discussed the question of relating prices to values in the transition period:

...on the borders of communism, ie on the border of liberation from value categories, we must propose full agreement of prices with values not only on the scale of the entire society or in individual economic branches, but on the scale of *every tiny composite section of the social economy*.³¹

Thus the main plank of Soviet price policy should be the maximal possible coordination of prices with labour outlays. And since costs of production (*izderzhki proizvodstva*) reflect labour outlays more accurately than pure market prices, the calculation of tariffs should be based upon costs of production rather than on supply and demand factors. In this way Bessonov criticised the current tariff policy and the methods used to calculate the tariff rate.

Strumilin responded to these criticisms in an article entitled 'Tarifnaya problema v SSSR' also published in *Planovoe khozyaistvo* in 1928. Focusing on differential tariffs he notes that two criteria for calculating the rates of railway tariffs are used: the value of the transport freight and the distance to be transported. According to Strumilin Bessonov criticised this

because of its incorrect theoretical foundation which reflects the theory of 'cargo solvency' (*platezhnesposobnosti грузов*), which in turn is based on the notorious 'law' of supply and demand.³² According to Strumilin Bessonov claims that current tariff policy can be explained by the influence of the Austrian school on the minds of tariff makers. However, Strumilin responds by noting that even Bohm-Bawerk did not exclude a cost of production or prime cost element from price formation, although he primarily stressed subjective factors. Marx also allowed a cost element as well as a supply and demand element in price formation, although his theory was not limited to these factors since he brought in the law of value.³³

Strumilin further criticises Bessonov's idea that prices in the transitional epoch must coincide with values. This already assumes a harmonious distribution of productive resources under which all requirements are met, a situation which does not correspond to current Soviet reality. Only when communism has been built can 'prices' equal 'values', but in an epoch of complete economic restructuring price policy must be aimed at development, and this requires that some prices must deviate from values. The example which Strumilin gives is again of agricultural machinery and fertilizers, prices of which are reduced below value in order to boost production.³⁴

What can be drawn from this debate? Firstly, although the question of finding an alternative accounting unit to money had been dropped during the transition to NEP, many debates throughout the 1920s were still framed in terms of value. However, it is clear that Strumilin did not give or attempt to give any way of calculating such values in his writings. Thus talk of having a price policy in which a good was priced above its value was really meaningless in the absence of a method for calculating this value. What Strumilin meant of course was that a price would be increased above its current level, and that state regulation of prices was a useful instrument of economic policy. But since a theory of value was central to Marx's project, suitable respect had to be paid to this idea. Secondly, the NEP era was in terms of economic theory an era of dual track development. At the same time as Strumilin debated

questions relevant to a monetarised economy, ie tariff rates, emission rates etc, he was debating questions relevant to a non-monetary economy, ie physical balancing of supply and demand, planned growth rates etc. Thus the transitional nature of NEP is clearly revealed in Strumilin's work. In relation to the market this section shows that debates on price policy were still framed in terms of value vs price, ie that the law of value governed the operation of market forces in some unspecified manner.

4.1.7 - MARGINAL UTILITY

As I noted earlier, Yurovskii pointed out that Strumilin seemed quite close to marginal utility theory in some of his pronouncements. In an article entitled 'The Economic Significance of National Education' published in 1925 in *Ekonomika truda* Strumilin came even closer to this doctrine than he had previously. This article was an attempt to assess the economic benefits of education to the economy as a whole by investigating what relation the length of education undertaken had to benefits in terms of increased skill obtained. Strumilin writes that any amount of education may be desirable from the point of view of the individual who receives it, but the state wants to know whether all amounts of education are equally useful in raising the country's productivity. If all amounts are not equally useful, what is the most profitable length of education for each worker?³⁵

In order to make a rational estimate for the optimum length of education it is necessary to determine what each year in education gives the worker and the state and what it costs overall. Strumilin does this by measuring the increase in skill (measured through market rates of wages), and by comparing this to the costs borne by the state. This is a rather complex operation, but the results which Strumilin obtains are shown overleaf:³⁶

AGE OF STARTING WORK	YEARS SPENT IN: EDUCATION	WORK	LIFE'S WAGES IN RUBLES	EFFECT OF EDUCATION	COST OF EDUCATION	BALANCE TOTAL	MARGINAL
16	0	37	12278	-	-	-	-
16	1	37	14868	2590	18	2572	2572
16	2	37	17404	5124	46	5078	2506
16	3	37	19950	7672	85	7587	2509
16	4	37	22330	10052	126	9926	2339
16	5	37	24654	12376	170	12206	2280
16	6	37	26838	14560	212	14348	2142
16	7	37	28854	16576	272	16304	1956
16	8	37	30772	18494	361	18133	1829
17	9	36	31752	19474	491	18983	850
18	10	35	32480	20202	615	19587	604
19	11	34	32844	20566	761	19805	218
20	12	33	33040	20762	983	19779	-26
21	13	32	33068	20790	1325	19465	-314
22	14	31	32984	20706	1853	18853	-612

According to Strumilin these figures reveal the 'law' of diminishing productivity of education, and his presentation of this data clearly reveals that he is using the marginal concept to determine profitability - education should be taken to the point where marginal cost equals marginal revenue, in this case somewhere between eleven and twelve years of education with work beginning between nineteen and twenty. Strumilin does note that political and other evaluations also should be taken into account as well as this narrow economic approach, but his overall method is clear.³⁷

Why was it that Strumilin could use the MC = MR principle, yet reject subjective value theory and price determination built upon it? One reason could be that theoretically MC = MR was not directly linked to subjective value theory in the writings of people such as Bohm-Bawerk, and its development was somewhat divorced from the subjective price determination approach.³⁸ Such an optimisation principle seems a little removed from questions of value, and could thus be utilised in the 1920s with less ideological dissonance, although Yurovskii did note the contradiction.

Similarity with non-Marxist economics can be noted in other areas also. Strumilin wrote an article on inflation called 'K voprosu o denezhnoi inflatsii i deflatsii' in *Planovoe khozyaistvo* in 1926, in which he was concerned to explore differing definitions of inflation. According to one idea inflation is any new issue of monetary symbols into circulation, according to another inflation is the condition where the

purchasing power of money declines, and visa versa for deflation.³⁹ Still another states that inflation is a process which occurs when there is an abundance of money in relation to the normal level of requirements for it.⁴⁰

Purportedly using the ideas of Marx, Strumilin constructs an equation which can be used to explain the inflationary process. This equation is given below:

$$x = \frac{k (T - t)I}{n} + \frac{P - p}{n_1}$$

where x = the monetary mass, T = all the commodity mass realised in a given period, t = portion of goods realised non-monetarily, k = coefficient of circulation, I = average relation of price in gold for a unit of good or commodity index price, P = general sum of money payments, p = portion of P paid non-monetarily, and n and n_1 are the number of turnovers of money units in a given period.⁴¹ According to Strumilin all these elements are subject to statistical calculation.

Strumilin asks the question: what must follow from the introduction of excess monetary units in comparison with the requirements of turnover? The above formula contains all the elements necessary for an answer. If the total circulation of commodity values remains constant, but the sum of money units changes, then assuming that the purchasing power of these units remains constant there is only one change possible which will keep the original equilibrium given by the equation - a decrease in the average rate (*skorost'*) of monetary turnover.⁴² Thus a measure of inflation can be a decrease in the rate of monetary turnover, and of deflation an increase in this rate. Of course, Strumilin notes that this holds true only if the precondition of stable prices holds true.⁴³

Such an understanding of inflation exhibited by Strumilin is close to the quantity theory of money held by non-Marxist economists. As I showed in chapter three, this framework was common to other Bolsheviki in the 1920s, and thus it should not be surprising to find that Strumilin adopted a similar approach.

This section shows that while Strumilin criticised 'bourgeois' economics in general as erroneous, he was using ideas common to non-Marxist economics in his detailed investigations without noting any problem, specifically $MC = MR$ and $MV = PT$. Only Yurovskii seems to have recognised the irony of this fact at the time.

4.2.1 - BAZAROV

One of Bazarov's longest and most detailed economic works from the NEP period was entitled '"Krivye razvitiya" kapitalisticheskogo i sovetskogo khozyaistva', which was carried in three consecutive issues of *Planovoe khozyaistvo* in 1926. In this work Bazarov gave a comparative analysis of the developmental curves of both capitalist and Soviet economic growth. Bazarov asks the question:

...what is the mechanism with the help of which the development of the productive forces occurs, ie which increases their level? Is there a universal 'tendency of development', as an immanent process of social production dynamics...which occurs automatically?⁴⁴

Bazarov notes that Marx had answered in the negative to this question. The first period of human economic life was characterised, according to Bazarov, by conservatism and spontaneous inertia. A very different mechanism is characteristic of capitalism: 'anarchy' of production and competition between independent enterprises creates a stimulus to relatively fast growth. However, the essence of capitalism is not progress, but profit.⁴⁵

In this work Bazarov analysed the qualitative and quantitative structures of the trade-industrial cycles peculiar to capitalist and Soviet conditions. To do this he distinguished between mechanical and active equilibrium, and used analogous thinking. Utilising the Newtonian framework of inertia and the second law of motion, he tried to construct models of cyclical fluctuations.⁴⁶ Mechanical equilibrium in its pure form can be

modelled by the law of simple harmonic oscillation, expressed as follows:

$$x = A \sin (2\pi/T) t \quad (1)$$

where x = the quantity of deflection in a given moment, A = the amplitude of oscillation, T = the duration of one cycle or period, and t = the time from the moment when the system reaches the point of equilibrium to the moment of observation.⁴⁷ But because, according to Bazarov, in reality trends are not simply harmonic, but rather fading oscillation dominates in which the amplitude subsides little by little, the following formula can be used:

$$x = Ae^{-kt} \sin (2\pi/T) t \quad (2)$$

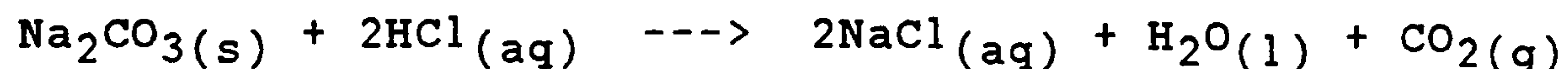
where e = natural log base, and k = a constant dependent on the quantity of internal and external friction.⁴⁸

In the fields of physics, chemistry, and biology the precondition of active equilibrium is the principle of conservation of energy and materials. A system of economic equilibrium can be interpreted in the form of such a balance, but in terms of social, not physical energy.⁴⁹ The quantity of living human labour socially necessary for satisfying a given sum of consumption determines the level of economic equilibrium. In capitalist society requirements are expressed in the form of 'solvent demand' (*platezh sposobnogo sprosa*).

Bazarov goes on to relate all this to the law of market saturation (*zakon nasyshcheniya rynka*) which he presents as follows. Suppose that on the market there is a definite and fully stable demand for several goods which at a given moment are absolutely unavailable. Suppose then that the commodities which are lacking appear on the market in quantities sufficient for saturating the solvent demand, for example from foreign suppliers. Clearly, the realisation of goods will occur especially fast in the first period, gradually slowing down according to the measure of satisfaction of demand which is achieved.⁵⁰ What is the law of this decline? In order to answer this question four preconditions are necessary: 1) that these

goods are irreplaceable by other similar goods; 2) that selling prices do not change; 3) that every consumer acquires one good; 4) that the consumer value of the good is stable.

Given these assumptions, Bazarov states that the process of market saturation is identical with the flowing 'exchange decomposition' reaction, under the condition that one of the products of the reaction is removed from the sphere of the reacting liquid. An example is to dissolve sodium carbonate in hydrochloric acid:



Because carbon dioxide and water are formed from this reaction (commodities, having entered into the sphere of consumption, disappear on the market), the process goes to completion when all molecules of sodium carbonate are transformed into sodium chloride (until full saturation of solvent demand for all consumers occurs).⁵¹ The molecules of sodium carbonate can diffuse in solution in all possible directions at various rates. However, according to Maxwell it is possible to use Gauss's analysis of the law of normal distribution, and therefore every molecule of sodium carbonate has the same chance of meeting a molecule of hydrochloric acid in a given time.⁵²

Using analogous reasoning consumers of goods, as opposed to molecules, are endowed with consciousness and will, but their actions are no more diverse than the spontaneous movement of molecules. Therefore with anarchical-market processes there is no basis to question the statistical regularity required for the kinetic theory of gases or the theory of solubility. Thus for analysis of market saturation it is possible to use the category of average probability of collision of a potential purchaser with goods on the market, which is a constant. Giving this the letter p , if A equals the number of goods required by purchasers, and x = the number of successful purchases of goods during the period of observation, then the mathematical expectation of the number of purchases in a unit of time is expressed by the formula $p(A - x)$; the actual number of purchases in a unit of time is the rate (dx/dy) .⁵³ Because in a

mass process the actual number will not significantly differ from the mathematical expectation, it is possible to write:

$$(dx/dy) = p (A - x) \quad (3)$$

or after integration:

$$A - x = (A - x_0) e^{-pt} \quad (4)$$

According to Bazarov this expresses the law of market saturation in its simplest form. The graph of equation one is a curve which at first quickly decreases in rate but only asymptotically approaches the x axis.

Bazarov continues by pointing out that the above analysis rests on many simplifying assumptions, for instance that all the goods necessary for satisfying the solvent demand are thrown on the market at once. It would be more realistic to assume that such goods appear first in small quantities and must win back demand from their competitors.⁵⁴ The process of recovery of active equilibrium may be 'autocatalytic' in nature, and thus be closer to a chemical reaction in which every molecule produced by the reaction itself stimulates the formation of new molecules. Here the rate is proportional to the number of newly created molecules:

$$(dx/dy) = kx (A - x)$$

or

$$\lg C (x/A - x) = Akt \quad (5)$$

where C and k are constant coefficients, x = degree of production, and A is the new level achieved by increasing labour productivity. According to Bazarov in classical capitalism formula four is the basic regularity of the dynamic level of productive forces (labour productivity), but not of physical exchange.⁵⁵

This analysis shows a number of things. Firstly, that Bazarov was concerned to seriously investigate the oscillations experienced by capitalism and to try to find mathematical expressions of them. This involved using assumptions about how the market operated. Secondly, that Bazarov, perhaps because of

his youthful affinity with Bogdanov and his days studying chemistry, relied quite heavily on analogy with ideas taken from the natural sciences. Thirdly, although Bazarov was clearly anti-capitalist in his general outlook, he was prepared to engage in academic research concerning capitalist processes and was not content to 'rest on Marx'. This approach was at odds with the Stalinist ideological system which was established soon after.

In the third instalment of this series of articles on economic cycles Bazarov turned his attention to the Soviet economy, and the general structure of the restoration process (*vosstanovitel'nogo protsessa*) occurring in it. He asks in what measure is the Soviet economy engaged in a simple restoration process, ie in reaching pre-war levels, and to what extent are new developments occurring? Pure restoration of pre-war levels is unlikely, so some new developments must be occurring.⁵⁶ Extending his chemical analogy, Bazarov attempts to show that the equilibrium of social economy in its formal structure is analogous to a chemical process in which products of the reaction are persistently removed from the sphere of the reacting bodies, and the original reactants are continually poured into the vessel in which the reaction is occurring in a coordinated manner. To do this at some point it may be necessary to suspend the new influx of substances. After this to gradually increase this influx creates a restoration process which achieves the previous level of equilibrium when the reactants flow in at the previous rate.⁵⁷

Bazarov believed that in the transitional epoch there existed a contradiction between the solvent demand of the working masses and the ability of the growth of the productive forces to fulfil this demand. Usually the origins of a goods famine was a mistake in economic policy, but according to Bazarov even if there was no mistake and the Soviet management organs possessed ideal perception, the goods famine would only be somewhat mitigated, but not removed at root. While the USSR remained a backward country as regards productive forces, to create a steady relative equilibrium between production and

solvent demand was possible only capitalistically and by limiting demand:

While our economic and political order excludes or limits these methods, the tendency to relative underproduction must be acknowledged as characteristic of our social structure, as the tendency for overproduction is to capitalism.⁵⁸

Thus Bazarov implied that the only way to prevent a goods famine in Soviet conditions was to limit demand, ie to reduce wage levels. This may appear to contradict the socialist policy of increasing the living standards of workers, at least in the short term, and this idea is somewhat similar to Bukharin's view of the nature of Soviet crises examined in chapter two.

Bazarov continues by discussing Groman's theory of the dynamic restoration process. According to Bazarov Groman's theory is based on two ideas which are presented in the introduction to the 1925/6 Gosplan control figures. These are as follows:

- 1) In the period of economic chaos, the forms of economic activity which were hardest hit were those with the most complex organisation and the highest technological level (metallurgy and metal working), while the organisationally and technologically primitive branches (agriculture and handicrafts) were disrupted the least. The least disorganised were the branches serving primary needs (food, fuel, clothing), while there was almost total paralysis of production of means of production;
- 2) In accordance with this the more urgent is the need gratified by a given branch, the sooner that branch will be embraced by the restoration process and, *ceteris paribus*, the restoration process will proceed faster the greater was the disorganisation in the period of economic chaos.⁵⁹

Given these basic postulates it seems reasonable to assume, according to Bazarov, that the speed of the restoration process must be maximal in the first months of the economic restoration, and for there to be a persistent and steady reduction in the speed as time progresses and as more and more means of

production are brought back on-line. This would give movement according to equation three above.

Bazarov notes that this formula was the subconscious basis of Soviet planning perspectives one and a half to two years ago. Approximate calculations show that gross production in state census industry grew in 1921/2 by more than 40% as compared with the preceding year, in 1922/3 gross production in pre-war prices grew by 31%, and thus the formula of slower growth seems to be verified. However, in 1923/4 there was instead of a further reduction a 30% increase. But this may be explained by the 'sales hitch' (*zaminka sbyta*) at the end of 1923, and may not necessary be a refutation of this thesis. Even if this is so, in the fourth year of the restoration process there was the most unequivocal overturn of this theory, with census industry growing by 60%. Noting that the owl of Minerva flies only after dark, Bazarov places the root of this underestimation of the capacity of Soviet economy to expand in the underevaluation of the profound turning point brought in by the war-revolutionary epoch in the organisation and social-economic position of labour power.⁶⁰

According to Bazarov it is possible to see that the Soviet restoration process is analogous with the dynamics of capitalist industry in the period of its transition from a depression to resuscitation by means of technical reconstruction and increased productivity of labour. There is one major difference: because the Soviet system of credit differs fundamentally from the capitalist, in the second part of the restoration cycle there cannot be a phase of 'stock-jobbing', and consequently the Soviet restoration must be more or less smooth, without a crisis waiting inevitably at the end.⁶¹

Another difference between capitalist cycles and the Soviet restoration process is the mechanism through which reconstruction occurs. In a capitalist depression price reduction stimulates technical reconstruction of production, and creates the preconditions for a movement out of depression. However, the analogy with the Soviet economy cannot be made. Prices of industrial goods in the famine year were so low, and organisational-technical possibilities for industry so limited,

that industry worked at a loss, and basic and turnover capital was wasted.⁶² If instead of state industry there were private capitalists, undoubtedly such 'animation' would not arise, and in 1921/2 there would be a strengthening in the depression as compared with the previous year. In 1922/3 prices of industrial goods increased, and state industry received a large profit. A highly generous credit policy led to 'credit inflation', as the illusion of infinite demand was evoked.⁶³ As a result of this the 'goods hitch' occurred, which was essentially different from capitalist crises since state enterprises were not sold under the hammer, but received financial support.

It is apparent from this analysis that Bazarov questioned the Soviet policy of funding state enterprises even when they were hugely unprofitable, as this may lead to inflationary pressures. He thus implied that a more orthodox approach would be more successful, and based his conclusions on arguments which were and are common in Western economic literature. Thus Strumilin's complaints against the 'bourgeois' influences present in Bazarov's work seem somewhat vindicated.

In another article on the restoration process published in *Ekonomicheskoe obozrenie* in 1925 entitled 'O "vostanovitel'nykh protsessakh" voobshche i ob "emissionnykh vozmozhnostiakh" v chastnosti' Bazarov states that:

Subject to the same law of 'fading oscillation' are the movements of a sounding string, the discharge of an electric battery, waves spread out as the effect of a stone thrown into water, 'conjunctural' fluctuations of market supply and demand, and even the succession of political forms in transitional periods...⁶⁴

This law of fading oscillation could be stated as follows: the closer a system which has been disturbed from equilibrium comes to returning to the initial point of equilibrium, the slower will the traverse to equilibrium move. Or, put another way, the speed of the traverse is directly proportional to the distance from equilibrium. According to Bazarov this is applicable to the Soviet restoration process, as well as the oscillations of supply and demand in a market.

In this article Bazarov represents these ideas mathematically as follows. Model functions which have the form $X = ca^{-kt}$ or $x = c/a^{kt}$ meet the requirements set, where a , c , and k are constants, and X and t are variables (distance and time).⁶⁵ Another way to write this would be: $X = X_0e^{-kt}$, where X_0 is the distance from equilibrium at the start, e = natural log base, k = a coefficient describing the intensity of the process, X = the distance from equilibrium at the point of measurement, t = time elapsed from X_0 to X . However, Bazarov stresses that such a mathematical model is a simplification based on the pure form of the restoration process only. In terms of the economy it assumes that productive capacity and effective demand are limitless, which in the Soviet context is clearly misleading.⁶⁶ He notes that on present information only a very rough guess of, for example, technical capacity could be made.⁶⁷

Bazarov published the three 'Krivye razvitiya' articles from *Planovoe khozyaistvo* together with some new material on the dynamic regularity of social economy in a book entitled *Kapitalisticheskie tsikly i vosstanovitel'nyi protsess khozyaistva SSSR* of 1927. The new material included a chapter on energetics and economics, and a chapter on the internal connections between basic elements in the restoration process. In the latter chapter Bazarov attempted to show that the productivity of labour represents the integral result of the action of two composite elements: the effort of labour (*napryazhennosti truda*) or the changing quantity of labour energy, and the productive power of labour which depends on the level of technique and the current organisation of the labour process.⁶⁸ Direct measure of this latter element is impossible, but the level of wages can be used as an indirect measure of labour effort.

Bazarov calculates Pearson's correlation coefficients for various data sets in relation to productivity of labour/wages, gross output/wages, and gross output/productivity of labour in various industrial branches such as metals, chemicals, paper, mining etc. For example the following table shows the relation between monthly fluctuations of labour productivity and wages in various branches of industry:⁶⁹

INDUSTRIAL BRANCH	COAL	METAL	CHEMICAL	TEXTILE	FOOD	PAPER
1922/3	0.47	0.26	0.62	0.40	-0.11	0.13
1923/4	0.28	0.04	0.03	0.43	0.35	-0.03
1924/5	0.22	-0.12	-0.05	-0.06	0.27	0.41

Bazarov notes that a weakening of the connection between labour productivity and wages is observed towards the end of the three years in leading branches of industry such as coal, metals, chemicals, and textiles. This analysis shows that Bazarov used statistical measures of correlation to investigate the dynamics of the restoration process in the USSR, and thus was not satisfied with a purely qualitative account.

4.2.2 - BAZAROV AND PLANNING

Some interesting points were made in relation to planning by Bazarov in an article entitled 'O metodologii postroeniya perspectivnykh planov' in *Planovoe khozyaistvo* in 1926. Bazarov states that perspective plans must unite genetic and teleological methods of planning, and that the agricultural sector requires predominantly genetic planning whereas the state sector requires a predominantly teleological approach.⁷⁰ He asks the question: what is an optimal plan? His answer contains three basic conditions. Firstly, that the progress of the economy from the point of departure to the end point indicated by the plan must be smooth and without interruptions, which in turn assumes the existence of economic reserves. Secondly, that the economy must be a harmonious, organic whole - a maximally stable system of mobile equilibrium and proportionality. Thirdly, that the path chosen from the initial point to the final goal should be the shortest possible one.⁷¹

In this article Bazarov notes some stress points within current Soviet economic policy. Since wages should grow faster than productivity (this presumably being a socialist goal), the norms of capitalism in respect to expenses on reconstruction and growth will be higher than the corresponding norms in Soviet conditions. Since also that there are large administrative expenses on the planning apparatus, to achieve the growth rate observed in advanced capitalist countries in Soviet conditions

would be rather difficult.⁷² Bazarov also recognises that his three criteria for optimal planning given above may contradict each other. In the case of a conflict between the shortest path and proportionality, the latter should prevail. Consequently growth rates may have to be sacrificed to stability.⁷³ Bazarov also advocates the notion that, except in special cases such as defence needs, the international division of labour should be respected in perspective plans. Despite the abundance of natural resources in the USSR, there will inevitably be:

...individual areas of production in which, owing to natural conditions, we shall be unable in the foreseeable future to bring the cost of production down sufficiently for the domestic product to cost us no more than the foreign output of the same quality. As a general rule output of this type should be left out of the general plan.⁷⁴

This shows that Bazarov accepted the rationality of the international division of labour, and this clearly contradicted the isolationist policy favoured by Stalin in the 1930s. As regards the end of the restoration period, Bazarov recommends that as growth slows investment needs to grow also, but even if this occurs there will be a pause in growth until the new investment projects come into working order.⁷⁵ This is part of the logic of the current position of the Soviet economy.

It is clear from his writings that Bazarov supported the notion of planning in the wide meaning of the word. But how would planning replace the functions performed by the market? Bazarov gave an indication of one aspect of this question in an article called 'Ispol'zovanie byudzhethnykh dannyykh dlya postroeniya struktury gorodskogo sprosa v perspektive general'nogo plana' in *Planovoe khozyaistvo* in 1927. In this article Bazarov attempts to show how the structure of urban demand can be calculated from budget data in relation to the genplan. He takes the TsSU budgets of March 1923, 1924, and 1925 as base material, and tries to construct a perspective curve of how demand will develop over the period of a genplan. Bazarov's calculations reveal that the average earnings of all workers in March 1925 was 13% higher than in March 1924, and in March 1926 it was 27% higher than in March 1925.⁷⁶

Bazarov presents the following figures for the projected changes in distribution of earnings between 1926 and 1940, given in percentage form:⁷⁷

YEAR	EARNINGS IN RUBLES									
	<20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-150
1926	15.7	21.9	22.4	19.2	11.3	4.9	2.6	1.2	0.48	0.4
1940	1.1	9.6	7.2	11.7	11.8	2.8	23.5	--	22.5 --	9.8

In terms of the structure of this demand, ie how aggregate demand is divided into demand for individual goods, Bazarov gives the following percentage figures which represent this for 1925:⁷⁸

EARNINGS OF HEAD OF FAMILY	LODGINGS	FUEL/LIGHTING	FOOD	CLOTHES	OTHER
16.9	4.5	11.8	53.5	19.0	11.2
28.5	5.2	9.6	49.2	22.2	13.8
39.5	4.7	8.8	48.2	24.1	14.2
48.9	6.2	7.6	46.6	25.2	14.4
58.8	5.4	6.7	46.0	25.8	16.1
65.0	5.9	6.6	45.4	24.3	17.8
76.5	5.7	6.2	44.2	24.8	19.1
103.3	5.9	5.5	42.9	24.4	21.3

The corresponding figures for 1940 are given below:⁷⁹

AVERAGE OUTLAY OF FAMILY	LODGINGS	FUEL/LIGHTING	OUTLAY FOOD	CLOTHES	OTHER
37.2	12.0	11.8	51.0	17.0	8.2
51.0	11.0	9.6	47.3	20.4	11.7
62.4	10.0	8.8	46.4	22.3	12.5
76.5	10.0	7.6	45.3	23.9	13.2
85.9	10.0	6.7	44.4	24.3	14.6
93.6	12.0	6.6	43.4	22.2	15.8
102.5	12.0	6.2	42.1	22.7	17.0
130.4	12.5	5.5	40.3	22.0	19.7
221.0	14.0	4.0	34.0	25.0	23.0

However, it is clear that the methods used to calculate these figures in no sense involved the families whose outlays were being predicted. These type of calculations were made solely by planners, without regard for the desires of those people whose

actions were being forecast. In this sense Bazarov's approach to planning was identical with Strumilin's, and with the approach which became dominant in the 1930s. The idea of democratic planning was never mentioned in such articles, rather the task of planning was left to experts alone. Of course, it may be the case that democratic planning is simply not feasible, but there were no debates on this question in the 1920s and thus this conclusion, if it was made, was accepted implicitly. In this article it is also clear that Bazarov takes the genplan data as given. He notes that the genplan is constructed on a hypothesis of proportional growth, and that the growth rate of national income which he uses is given by the genplan. He does not detail how the genplan figures were constructed, and thus it is possible to conclude that he agreed with the methods by which the genplan was constructed.⁸⁰

However, the difference between Bazarov's approach to planning compared with Strumilin's is apparent from the chapter on energetics and economics in *Kapitalisticheskie tsikly i vosstanovitel'nyi protsess khozyaistva SSSR*. In this chapter Bazarov cogitates on the construction of planning balances based not on value and price categories, but rather on physical and energy categories. Using A.N. Shchukarev's article 'Termodinamika i kinetika obshchestvennykh protsessov' from the journal *Nauka i tekhnika*, Bazarov discusses the meaning of the categories in the following equation:

$$dW = W_1dw_1 + W_2dw_2 + \dots W_ndw_n$$

where dW is the outlay of social labour in production or the growth of all social energy, and $W_1 \dots W_n$ is the quantity of specific social energy (quantity of social labour) expended on producing a unit of a good.⁸¹ Bazarov notes the difference between socially-necessary labour as a norm and kinetic energy as a definite quantity, and relates that the second law of thermodynamics is not applicable to the process of production.⁸² In conclusion Bazarov notes that the task of constructing a general theory of the social force field requires a synthesising genius on a par with Newton.⁸³

4.2.3 - NEP

It is worth noting that Bazarov divided the first half of the 1920s into two periods. In a 1926 article entitled 'K pyatiletiyu nep'a' published in *Ekonomicheskoe obozrenie* Bazarov reviewed the first five years of development in the NEP period. He stated that these five years can be divided into two basic sections. In the first period, from the moment of the proclamation of NEP until the 'crisis' at the end of 1923, the object of the regulating activity of the state in the industrial field was the physical volume of production. Planning and regulative organs composed 'production programmes', and fields of exchange and distribution such as prices and profit remained outside the direct control of the state. In these areas acted the automatic regulator 'conjuncture', ie the spontaneous play of supply and demand on free markets.⁸⁴ However, in the autumn of 1923 the goods crisis occurred. From this time begins the second stage of NEP, when the state aspired to subordinate market relations to its directly planned goals.⁸⁵ Thus Bazarov implies that from mid-1921 until the end of 1923 markets developed freely and without a great deal of state control. It was only after the crises in 1923 that the state began to intervene heavily. This is interesting because many commentators place the high point of NEP around 1925, but according to Bazarov the state was regulating at this time more than it was in the early part of NEP. It may follow that the most successful period of NEP was when the state was intervening on markets to some extent.

An outline of Bazarov's general conception of NEP can be found in a 1924 *Ekonomicheskoe obozrenie* article called 'K voprosu o khozyaistvennom plane'. In this article Bazarov states that it is correct to say that a fully developed planned economy contradicts a commodity economy. Direct social management of all aspects of production and distribution is not compatible with commodity markets, a fact known by every student. However, the dialectical movement towards socialism is exceedingly complex and contradictory, in particular the combination of commodity

markets with planning which now exists under NEP. This combination:

...is not simply a compromise between socialist and capitalist principles. In the framework of the production possibilities of the given epoch and the given country, NEP is the basic precondition of successful economic planning dictated by the internal structure of state industry, and it would be a profound mistake to see in current economic policy a limiting of the planning principle in the interests of petty-bourgeois peasant elements.⁸⁶

Bazarov continues by outlining how commodity markets were the precondition of successful planning in a double sense. Firstly, they made easier the restoration of the personal interest of each worker in the results of their labour. Secondly, they simplified the functions of actual control of work in enterprises, and consequently they simplified all economic regulation. Bazarov says that if Soviet industry was already at the level where planned management was possible, then there would be no basic difficulty in organising product exchange between the rural economy and state industry. Free markets and the *smychka* would be unnecessary.⁸⁷ Thus it is clear that in this article he shared Strumilin's aim of abolishing markets in planned economy, and saw the use of markets in NEP as a temporary measure. However, it is also clear from the above that Bazarov did not regard NEP as simply a retreat. It was progress in the Soviet context, and thus the development of market exchange in NEP constituted a step forward, not a step backwards. From this it follows that markets were important for the development of the Soviet economy.

4.3.1 - GROMAN

One of Groman's most famous ideas was put forward in an article entitled 'O nekotorykh zakonomernostiakh empiricheskikh obnaruzhivaemykh v nashem narodonom khozyaistve', published in the first and second editions of *Planovoe khozyaistvo* in 1925. This work was a bold attempt to establish regularities empirically observable in the Soviet economy, relevant at least

to the current restoration period. Groman gave these the title 'empirical law', by which he meant:

...observable regularities of the existence and sequence of phenomena, for instance the law of declining mortality associated with the growth of welfare, the growth or decline of yields associated with changes in cultivation, the relation between the value of industrial and agricultural output coming to the market...⁸⁸

The specific regularities which Groman wanted to investigate were: a) the relative growth rates of industry and agriculture; b) the relation between the value of industrial and agricultural products entering the market and their respective price levels; c) the distribution of industrial products between city and country; d) the relation between volume of money and turnover of goods; e) the relationships between labour productivity, wages, and labour costs.⁸⁹

However, a theoretical ambiguity lies at the heart of this approach, a problem which was quickly picked up by his opponents. Groman, claiming that even though economic life is complex regularities can be found, writes:

...the degree of their stability is not absolute; regularities once discovered will not subsequently reappear in identical form. However, subsequent events will closely resemble the regularities...⁹⁰

Why must they 'closely resemble' the regularities? If their stability is not absolute, then there is no reason why in any given case they will be followed. This ambiguity about how and when a given regularity can be applied was taken up by many at the time, who mocked the idea that a ratio found from a small number of past years could have accurate predictive powers.

Here I will investigate three of Groman's regularities; that between prices of agricultural and industrial goods, that between distribution in city and country, and that between the money mass and the commodity mass. In the first case, Groman calculated the percentage distribution of total sales between agricultural and industrial products to be as follows:⁹¹

YEAR	AGRICULTURE	INDUSTRY
1913	37	63
1921-2	52	48
1922-3	41	59
1923-4	38	62
1924-5 (forecast)	37	63

Thus Groman notes that the pre-war coefficient (37:63) was restored after three years of regeneration, and that it is this ratio which is being approached during this time. Jasny states that Groman restricted this regularity to the restoration process, but this would be rather devious since by definition the restoration process is a process of reaching pre-war norms.⁹² In my opinion Groman seems to imply that this ratio is relevant to more than just the restoration process, although does not explicitly define its relevance. Jasny gives the following figures from the 1929/30 control figures for this ratio in subsequent years:⁹³

YEAR	AGRICULTURE	INDUSTRY
1926/7	33.1	66.9
1927/8	31.9	68.1
1928/9 (estimate)	32.0	68.0

Jasny implies that these figures show Groman's approach to be correct, since 1926/7 was given as the year in which the restoration process came to an end.

In relation to the distribution between country and city Groman's analysis was as follows. Agricultural goods were distributed one third to the country, and two thirds to the city; industrial goods were distributed 28.5% to the country while 71.5% remains in the sphere of industry or goes to trade, transport and the state apparatus.⁹⁴ As regards the relation between the commodity and monetary masses, Groman concludes that there is a definite empirical law by which the growth of the money mass increases faster than the growth of the commodity mass.⁹⁵

Such an analysis would have been of obvious importance to Soviet economic policy at this time, but its claim to show coefficients which were empirical laws may seem to be rather stretched. Groman gave no reasons why for example the ratio of

industrial to agricultural produce sold should be 63:37, and if this ratio was limited to the restoration process he gave no indication what it would be after this process had ended.

As was mentioned above, Groman was one of the major economists who worked on the 1925/6 control figures. In 1926 he published an article in *Planovoe khozyaistvo* entitled 'Tezisy k peresmotru kontrol'nikh tsifr na 1925/6g' in which he set out a number of theses concerning these control figures, some of which are as follows:

- 1) The planning principle contradicts not only elements of private economy, but also elements of enterprises run on *khozraschet* principles;
- 2) The group interests of workers are not always in agreement with the aim of developing the economy towards socialism;⁹⁶
- 3) Under Soviet conditions the elaboration of a general plan for state enterprises which is in harmony with the system of regulating private economy is extremely difficult;⁹⁷
- 4) In the first quarter of the new economic year we have a completely different economic environment than that which was supposed by the control figures. Grain exports do not coincide with the figures supposed, and because of this imports had to be reduced. Problems were also encountered with the relative purchasing power of gold on internal and foreign markets;⁹⁸
- 5) Since the control figures were not discussed in the higher organs until their finalisation, the economic activity of our economic organs and the regulating activity of our departments was not definite and lacked leadership;
- 6) The Soviet economy is a complex transitional form which is absolutely original and in which monetary circulation can and must be regulated by an original system of measures unlike that which exists in Western Europe.⁹⁹

These theses reveal a number of things. Firstly, that Groman was ready to accept that the control figures contained errors. Secondly, that planning may contradict the market in some respects. Thirdly, that the financial regulation which Groman proposed was not simply a duplicate of the type which already existed in capitalist countries. Unfortunately, he does not

provide any more detail on this topic. They also show that Groman strongly supported the idea of planning as such, and seemed to have no doubts over the correctness of the direction of movement occurring - towards a totally planned economy.

4.3.2 - THE CONTROL FIGURES

The first control figures were prepared by Gosplan in the summer of 1925 for the economic year 1925/6, and were published on 20 August 1925. Carr & Davies interpret the development of the control figures as one stage in the battle between Gosplan and VSNKh on the one hand, and Narkomfin on the other, and state that the first control figures were a 'bold attempt' by Gosplan to take the lead in economic policy-making from Narkomfin and the budget.¹⁰⁰ To support this they quote the following statement by Groman:

The volume of capital expenditure already being undertaken shows that the control figures have already won a certain victory; for the attack from Narkomfin and Gosbank and Narkomzem on the control figures was resisted not only by VSNKh, but also by Gosplan, armed with the revised control figures.¹⁰¹

This shows that Groman had little sympathy for the critics of planning in Narkomfin such as Sokol'nikov, and was perhaps in this respect closer to Strumilin than would have been at first expected.

The control figures increased in importance in 1926/7, when the plans of individual commissariats and the state budget were required to take these figures into account. The 1925/6 figures, according to Carr & Davies, contained three major errors: harvest difficulties were underestimated, and both currency emission and exports were exaggerated.¹⁰² As a result the figures for 1926/7 were, by Strumilin's admission, extremely modest, although by 1927/8 upward revisions became more common. On the 1928/9 control figures the names of Groman and Bazarov did not appear in the preface.

The 1925/6 control figures contained a section which discussed the methodology used for drafting the figures.

According to this discussion there were three basic methods used:

- 1) the method of dynamic coefficients, obtained from analysis of the actual evolution of the economy in recent times;
- 2) the method of expert estimates of advances economically and technically feasible;
- 3) the method of control comparison of the results obtained with other data, for example pre-war data.¹⁰³

It is apparent that the first of these methods is Groman's notion of finding empirical regularities of economic development, and the ratio 37:63 for industrial and agricultural output is explicitly mentioned. The second involved asking experts to examine development possibilities from the point of view of factors such as market capacity, raw material availability, import possibilities, or even the skill level of labour. The third method was a useful guide only, since comparison with pre-war norms could not be taken as the absolute criteria of acceptance. Such norms were not ideal relations, but historical examples.

Strumilin was also one of the major originators of the control figures, and by the time of the 1928/9 control figures as I mentioned above the names of Groman and Bazarov were not mentioned in the preface, whereas Strumilin's role was acknowledged as chairman of the special commission for statistical material. The 1928/9 control figures are also interesting because they give an insight into how the state was to regulate commodity-turnover at this time. This system was to be based on three elements. Firstly, on socialisation of commodity-turnover, on the widening of cooperative trade. Secondly, planned contracts for important goods were to be issued, and their distribution would also be planned. Thirdly, price norms were to operate, directed to stimulate market supply of important agricultural commodities.¹⁰⁴ However, these control figures also warn against excessive development of administrative norms, which could lead to bureaucratisation of trade. Even so, the control figures direct a preservation and deepening of centralised distribution of important goods such as the products of census industry and grain, and thus some element

of contradiction may be observed.¹⁰⁵ The following passage indicates that there was still some element of market-orientated thinking remaining in Gosplan at this time:

Through the market, as was indicated, it is possible in significant degree to facilitate the fulfilment of the November party directives concerning the stimulation of the economic interests of the wide *bednyak-serednik* peasant mass.¹⁰⁶

However, it is clear from the 1928/9 control figures that such market-orientated thinking was under siege from another type of thinking, as centralised directives were given a prime role in the system of state regulation of the economy.

4.4 - CONCLUSION

In comparative perspective it can be seen that Strumilin, Bazarov, and Groman all supported the introduction of planning into the Soviet economy in the 1920s to some extent. Strumilin conceived of planning as a replacement for the market in the sense that the market revealed consumer demand, and thus planners would have to calculate such demand through various techniques. Strumilin's explicit evaluation of subjective value theory and the market economics built on it was negative, but I demonstrated that he actually utilised elements of subjectivism in his work on education and inflation. In his work on price formation Strumilin attempted to use Marxist categories such as value to guide the task of price regulation, but this attempt seems to have been rather unsuccessful. This shows that although he still thought of the market in terms of Marxist theoretical categories, he found it difficult to apply such categories to the real cases of price control which he and the Bolsheviks faced in the 1920s.

Although Bazarov and Groman supported the idea of planning in a general sense, their approach to market economics differed from that of Strumilin. Bazarov pioneered his own very original approach to the study of economic phenomena such as the market, which combined techniques taken from contemporary Western economics such as correlation analysis with reasoning analogous

to phenomena studied in natural science such as wave motion and chemical equilibrium. As in the case of Bukharin it is not difficult to see the influence of Bogdanov at work here, although Bazarov's knowledge of science seems far greater than Bukharin's. Bazarov's analysis of the market mechanics which were applicable to the restoration process based on his law of market saturation was an impressive attempt to analyse current Soviet reality, and showed that he viewed the market in terms analogous to acid/base chemical reactions and the kinetic theory of gases. This approach was highly original.

Groman's analysis based on empirical regularities shows that he viewed market economics in terms of the observable relations between categories, and that he extrapolated these regularities into his approach to planning. Strumilin criticised both Groman and Bazarov for this type of planning, as he favoured the teleological over the genetic approach. However, some of Strumilin's early work on planning shows that his view was not always so opposed to genetic planning.

In the 1920s Gosplan was an institution containing people with diverse conceptions of the market and of planning. In the 1930s this diversity was replaced by a more monolithic approach as Bazarov and Groman were both placed under arrest.

NOTES

- 1 L.N. Yurovskii, *Denezhnaya politika sovetskoi vlasti* (Moscow, 1928), p.108.
- 2 Ibid, p.112.
- 3 Ibid, p.109.
- 4 Ibid, p.110.
- 5 Ibid, p.111/2.
- 6 Strumilin, 'Protsessy tsenoobrazovaniya v SSSR', reprinted in *Izbrannie proizvedeniya* (Moscow, 1964), vol.2, p.346.
- 7 Ibid, p.347.
- 8 Ibid, p.348.
- 9 Ibid, p.349.
- 10 Ibid, p.350.
- 11 It is worth noting that Strumilin is incorrect on this point. All that needs to be known to encourage or discourage flax growing is the current market price of flax, not its labour value, and the relevant elasticities of producers and consumers. Assuming that the relevant elasticities show that a price increase will result in more flax being sown, it is only necessary to increase the price above the current market level. Knowing the value of the flax would be no help in this matter.
- 12 Strumilin, 'Protsessy tsenoobrazovaniya v SSSR', reprinted in *Izbrannie proizvedeniya*, p.373.
- 13 Ibid, p.374.
- 14 Strumilin, 'Sotsial'nie problemy pyatiletki', reprinted in *Izbrannie proizvedeniya*, vol.2, p.339.
- 15 Ibid, p.340.
- 16 Ibid, p.343.
- 17 Ibid, p.344. However, it is possible that such a scale of error, if it occurred, could be compounded throughout the system and have a knock-on effect in other branches. Strumilin does not consider this, nor does he consider any problems related to the realisation of these plans. Supply and demand may balance on paper, but due to implementation problems balance may be lost in practise. Strumilin does not consider how a market system would adjust to these problems, and how planning could accommodate them. Strumilin also does not write much on the methodology used to obtain the given figures. Are they simply what he would like Soviet industry to produce? Are they related to production levels in the previous year? What coefficients were used and with what justification? In general it can be said that many such tables were presented by Strumilin without much methodological elaboration, and this was a criticism put to him by Kondrat'ev.
- 18 Ibid, p.345.
- 19 Strumilin, 'Pervie opyta perspektivnogo planirovaniya', in *Izbrannie proizvedeniya*, vol.2, p.178.
- 20 Ibid, p.178.
- 21 Ibid, p.179/80.
- 22 Ibid, p.208.
- 23 Strumilin, 'Otvety kritikam gosplana', in *Izbrannie proizvedeniya*, vol.2, p.261.
- 24 Ibid, p.261.
- 25 Ibid, p.262.

- 26 Strumilin, 'O bazise reformy', in *ibid*, p.52.
- 27 *Ibid*, p.53.
- 28 Strumilin, 'Dvizhenie tsen i tarifnaya politika', in *Izbrannie proizvedeniya* (Moscow, 1964), vol.1, p.197.
- 29 *Ibid*, p.199.
- 30 Bessonov, 'Problema prostranstva v perspektivnom plane' in *Planovoe khozyaistvo*, no.6 1928, p.65.
- 31 *Ibid*, p.71.
- 32 Strumilin, 'Tarifnaya problema v SSSR', in *Izbrannie proizvedeniya*, vol.2, p.293.
- 33 *Ibid*, p.296.
- 34 *Ibid*, p.305/6.
- 35 Strumilin, 'The Economic Significance of National Education', translated in Robinson & Vaizey ed., *The Economics of Education* (MacMillan, 1966), p.290.
- 36 *Ibid*, p.316.
- 37 *Ibid*, p.291.
- 38 Debate on the Hotelling thesis did not begin until the late 1930s in Western economic theory. However, Pareto had begun the debate on welfare economics in 1906 with his *Manual of Political Economy*, and Thunen had advanced the equimarginal principle in the nineteenth century.
- 39 Strumilin, 'K voprosu o denezhnoi inflatsii i deflatsii', in *Na planovom fronte* (Moscow, 1958), p.140.
- 40 *Ibid*, p.141.
- 41 *Ibid*, p.146.
- 42 *Ibid*, p.149.
- 43 *Ibid*, p.151.
- 44 Bazarov, '"Krivie razvitiya" kapitalisticheskogo i sovetskogo khozyaistva', in *Planovoe khozyaistvo*, no.4 1926, p.91.
- 45 *Ibid*, p.93. This reveals that Bazarov, in line with most Bolsheviks, could not conceive that production for profit might coincide with production for need.
- 46 *Ibid*, p.107.
- 47 Simple harmonic motion is motion described by a sinusoidal graph where the displacement in the graph depends sinusoidally on time.
- 48 *Ibid*, p.108.
- 49 *Ibid*, p.110.
- 50 *Ibid*, p.114.
- 51 *Ibid*, p.114.
- 52 A normal distribution has a probability density function symmetric about the ordinate and is often described as bell-shaped.
- 53 *Ibid*, p.115.
- 54 *Ibid*, p.117.
- 55 *Ibid*, p.118/9.
- 56 Bazarov, *Planovoe khozyaistvo*, no.6 1926, p.51.
- 57 *Ibid*, p.52.
- 58 *Ibid*, p.53.
- 59 *Ibid*, p.54.
- 60 *Ibid*, p.55/6.
- 61 *Ibid*, p.57.
- 62 *Ibid*, p.60.
- 63 *Ibid*, p.61.
- 64 Bazarov, 'O "vostanovitel'nykh protsessakh" voobshche i ob "emissionnykh vozmozhnostiakh" v chastnosti', translated in Spulber ed., *Foundations of Soviet Strategy for Economic*

- Growth (Indiana, 1964), p.284.
- 65 Ibid, p.289.
- 66 Ibid, p.290.
- 67 It is worth noting some rough edges on this theory. Bazarov never tells us why the processes he cites follow this logic. Intuitively it may seem plausible, but it is clear that there may be some obstacle which prevents this path from being taken, or simply that another path would naturally be taken. Bazarov's theory is not induced from empirical data, rather he seems to take it as given. The empirical data of the Soviet economy in the 1920s does not give supporting evidence of his theory, and many of his opponents were quick to point this out. Also, since this model includes no factors peculiar to the Soviet context, its relevance is rather distant. Perhaps Bazarov planned to continue this work by making it more concrete, but circumstances prevented him. While this particular line of work of Bazarov was quite sophisticated for this period, and theoretically interesting, it gives no concrete predictions or recommendations for economic policy. In this sense its usefulness was clearly limited as regards planning, although it did claim to show an insight into how market fluctuations develop. In this work it is apparent that Bazarov leaned towards pure theoretical economics rather than practical policy economics.
- 68 Bazarov, *Kapitalisticheskie tsikly i vosstanovitel'nyi protsess khozyaistva SSSR* (Moscow-Leningrad: Gosizdat, 1927), p.133.
- 69 Ibid, p.144.
- 70 Bazarov, 'On the Methodology of Constructing Perspective Plans', translated in *Foundations of Soviet Strategy for Economic Growth*, p.366.
- 71 Ibid, p.367.
- 72 Ibid, p.367/8.
- 73 Ibid, p.376.
- 74 Ibid, p.371.
- 75 Ibid, p.375.
- 76 Bazarov, 'Ispol'zovanie byudzhethnykh dannyykh dlya postroeniya struktury gorodskogo sprosa v perspektive general'nogo plana', in *Planovoe khozyaistvo*, no.5 1927, p.76.
- 77 Ibid, p.84.
- 78 Ibid, p.87.
- 79 Ibid, p.88.
- 80 Ibid, p.78.
- 81 Bazarov, *Kapitalisticheskie tsikly i vosstanovitel'nyi protsess khozyaistva SSSR*, p.35.
- 82 The second law of thermodynamics is based on the experimental fact that there is a continuous fall in the utility of the energy in the universe. Given the nature of this law it is clear why Bazarov would not like it to apply to the process of production.
- 83 Bazarov, *Kapitalisticheskie tsikly i vosstanovitel'nyi protsess khozyaistva SSSR*, p.38/9.
- 84 Bazarov, 'K pyatiletiyu nep'a', in *Ekonomicheskoe obozrenie*, no.3 1926, p.9.
- 85 Ibid, p.10.
- 86 Bazarov, 'K voprosu o khozyaistvennom plane', in *Ekonomicheskoe obozrenie*, no.6 1924, p.10.
- 87 Ibid, p.11.

- 88 Groman, 'Concerning Several Regularities Empirically
Observable in Our National Economy', translated in
89 *Foundations of Soviet Strategy for Economic Growth*, p.362.
90 Ibid, p.363.
91 Ibid, p.364.
92 Groman, *Planovoe khozyaistvo*, no.1 1925, p.96.
93 Naum Jasny, *Soviet Economists of the 1920s* (Cambridge, 1972),
p.112.
94 Ibid, p.114.
95 Groman, *Planovoe khozyaistvo*, no.2 1925, p.125.
96 Ibid, p.141.
97 Groman, 'Tezisy k peresmotru kontrol'nikh tsifr na 1925/6g',
in *Planovoe khozyaistvo*, no.2 1926, p.83.
98 Ibid, p.84.
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5.1.1 - INTRODUCTION

This chapter focuses on two members of the *Kon"yunkturnogo instituta* - N.D. Kondrat'ev and D.I. Oparin. Nikolay Dmitrievich Kondrat'ev (1892-1938) was a pupil of Tugan-Baranovskii at St Petersburg University, and politically he sympathised with the Social Revolutionaries. He worked as deputy Minister for Food in the Provisional Government, and in the 1920s he organised the innovative *Kon"yunkturnogo instituta* and advised both Narkomfin and Narkomzem. Towards the end of this decade he was attacked as a 'neo-narodnik' and was arrested. In the 'Menshevik' trial of March 1931 he was accused of organising a counter-revolutionary 'Working-Peasant Party'.

Dmitrii Ivanovich Oparin (1891-1978) graduated from the Petrograd Polytechnical Institute with a diploma candidate of economic science in 1915. He worked at the *Kon"yunkturnogo instituta* in the 1920s, was a member of the conjuncture Soviet of Gosplan USSR (1923-1926), the conjuncture department of Narkomvnutorg (1924-1925), and also worked in the world economy department of Gosplan USSR (1925-1930). He taught at the Moscow industrial-economic institute named after A.I. Rykov and at Moscow State University (1924-1925). In 1930 he was arrested, but was eventually released. After his arrest he worked in the baking and tea industries, and in 1964 he became a member of the scientific council of the Academy of Sciences USSR.¹ Thus he was one of the few economists to survive the 1920s and to continue working for many years after. In the 1920s perhaps the greatest influence on his work was Kondrat'ev. Much of Oparin's work is concerned with the study of conjuncture, or market fluctuation, and it was Kondrat'ev's *Kon"yunkturnogo instituta* which provided the lead in investigating this topic at this time. However, Oparin did not follow Kondrat'ev blindly, as his 'Kriticheskii analiz "Bol'shikh tsiklov kon"yunktury" Prof. Kondrat'ev' clearly demonstrates.² In fact Oparin pioneered his own approach to the study of market conjuncture, an approach he called 'schematic economy' or 'schematic equilibrium', which utilised statistical analysis alongside qualitative reasoning.

Kondrat'ev is undoubtedly famous today for his theory of long waves in the economic process. However, what is less well-known is that this discovery was part of a study of cyclical phenomena in general which Kondrat'ev called economic dynamics. Kondrat'ev headed an institute devoted to such study called the *Kon'yunkturnogo instituta* in Moscow, the aim of which was to study the dynamics of economic indicators such as price. Kondrat'ev was also involved in debates on planning and in the planning process itself. The question of outlining future development was clearly linked to the question of recent developments, and Kondrat'ev's institute was a body created precisely for the task of studying current trends. Kondrat'ev was also involved in drafting a five-year plan for agriculture which was never adopted, and wrote much on the methodology of the planning process. This is perhaps a useful place to begin.

In an article entitled 'Plan i predvidenie' of 1927 published in the journal *Puti sel'skogo khozyaistvo* Kondrat'ev outlined his views on the methodology of the planning process. This article was subtitled 'on the methods of composing perspective plans for the development of the national economy and agriculture in particular', and begins by noting the enthusiasm with which many types of plans are currently being composed at various levels such as local, republican, and Union. However, 'it is clear that such enthusiasm for constructing plans is not a guarantee of the *feasibility* of these plans in actual economic life', nor that they are of sufficient quality.³ Kondrat'ev notes that local and republican plans are composed for incompatible time periods and with different methods, and thus sometimes come to different conclusions. Since planning is concerned to surmount the spontaneous-economic process with a rationally based process, this seems mistaken - the planning process itself demands planned regulation.

The main theme of this article, indeed of much of Kondrat'ev's work, is outlined by him as follows:

...plans for future development have a close connection with forecasting this future. But if this

is so then it is clear that methods of constructing plans must be in harmony with the possibilities of such forecasts. We discuss the methodology of plan construction primarily as it is connected with problems of forecast possibilities and the limits to these possibilities.⁴

According to Kondrat'ev this problem is the basic question of plan construction on which the correctness of all planning work depends. Thus the connection is made between conjunctural study and the planning process.

Kondrat'ev, like most Bolsheviks, contrasts planned development with spontaneity. However, he notes that historically there has never been a national economy which has developed without any influence or support from organs of economic policy, the example of commodity-capitalist economies being given. This does not mean, though, that Soviet and capitalist planning are identical. They differ not only quantitatively but also qualitatively:

The influence of the state on economic life under private-capitalist order is limited to relatively narrow spheres of the economy and, as a rule, has an indirect (*kosvennii*) character. The state influences the economy through customs and tariff policy, through legislation of entrepreneurial unions, on the duration of the working day etc.⁵

The state aspires to limit or encourage the development of a particular branch or form of organisation, but there is no direct leadership of the economy as a whole. Kondrat'ev contrasts this with the position in the Soviet economy. The state has concentrated into its hands almost all industry and transport, almost all of the credit system, and a significant part of trade. Under such conditions the role of the state consist of direct leadership. In relation to private economy the state plays an indirect regulating and influencing role. Thus Kondrat'ev concludes that the state in the Soviet economy has a principally different role to the state in capitalist economy, and even in influencing private elements the Soviet state has a greater amount of power than a capitalist state.⁶ This reveals that Kondrat'ev made a sharp distinction between a capitalist and a transitional/socialist economy. Although both were

regulated by the state to some extent, the quantity of regulation in socialism produced a qualitative change in nature.

According to Kondrat'ev, if capitalist economy is a decentralised system regulated by the spontaneous laws of the market, then the current Soviet system is 'already not characterised by these features'. On the one hand there is decentralisation and competition, on the other there is centralisation and the principle of conscious leadership by state organs. Hence there is a 'struggle of spirits' occurring in the Soviet economy: spontaneity verses planning. The spontaneous principle has its root in market relations, both internal and external, and the planning principle is based on centralisation in the hands of the state.⁷ This conception is closer to Preobrazhenskii's view of the transition rather than Bukharin's. It is interesting to note that Kondrat'ev strongly connected planning with centralisation and the market with decentralisation, a position which today would be supported by many pro-market economists.

Kondrat'ev writes that plans are composed first of all from perspectives, ie perspectives on growth rates of particular industries, on the productivity of labour etc, and he outlines two possible types of perspective. In the first type perspectives are constructed solely on the basis of more or less distant socio-economic aims. Since this method fails to produce feasible plans, Kondrat'ev rejects it.⁸ Instead he recommends that plan criteria should be obtained from analysis of actuality, from analysis of the current position of the economy and the possibilities of spontaneous development, and of analysis of ways of influencing this spontaneous development into desirable channels:

...these perspectives in principle are not simply an expression of the spontaneous course of events, but are also not simply expressions of our wishes (*pozhelanii*). They are an expression of desirable results of economic construction within the framework of possibility.⁹

Thus the limits of the framework of possibility were to be found through analysis of current economic trends, ie through

conjunctural analysis, and the question to ask was: how are the spontaneous tendencies revealed going to be influenced in the direction desired?

Kondrat'ev objects to the view that the genetic method, ie the dominance of simple extrapolation of spontaneous tendencies, should be used for agricultural plans, whereas the teleological method, ie setting up desired targets independent of possibility, should be used for industrial plans. Such a categorical form of opposition, according to Kondrat'ev, is mistaken. Rather both methods have to be used to some degree in both types of plan.¹⁰ Even the state sector is affected by the anarchic developments of the private sector, and thus objective conditions partially outside of state control have to be taken into consideration when composing plans for this sector. Conversely, agricultural plans must reflect to some extent the consciously desired path of development, otherwise they would be totally superfluous:

Differences between the first and second types of plan [ie industrial and agricultural - V.B.] are conditioned not by the fact that in one case the genetic method and another the teleological method is used. Differences lie in the different possible influence of the state on industry and agriculture.¹¹

Since in industry the state leads directly, whereas in agriculture it only influences, the power of the state over industry is significantly higher and qualitatively wider than its power over agriculture.

Apart from the construction of perspectives, there are two other plan elements. The first is analysis of the existing economic conjuncture, the second is a system of measures and means by which the state can influence this economic conjuncture in the direction desired. What must be provided by such analyses, according to Kondrat'ev, are 'probable tendencies in the future economy in the period of interest', ie forecasting of future spontaneous developments which would have occurred without any attempt at influencing them by the state.¹² Thus for Kondrat'ev a perspective plan is not only a directive, but simultaneously a forecast: not only a forecast, but

simultaneously a programme of action. He quotes the following formula: know, in order to forecast; forecast, in order to manage.¹³

If the attempt is made to look into the future, then this is inevitably based, according to Kondrat'ev, on knowledge connected with *zakonomernost'* (translated as 'law-governed regularity' or 'logic'). Regularity is discovered in the course of actuality and in the study of the past, and extrapolation of this regularity can give a basis for forecasting the future. Kondrat'ev calls regularities observed over time dynamic regularities, and these are the type required for forecasting. He differentiates between a strict causal connection and an empirical law. The former occurs without fail given certain preconditions, whereas the latter is not as strict and various exceptions are allowed:

...it is clear that the more quantitative connection and causal regularity are established, the more exact knowledge of actuality we can have and the more exact forms of forecasting can occur...¹⁴

The largest possibility for forecast occurs in those branches of science where exact quantitative regularities can be established, for example physics and astronomy. However, in fields such as meteorology, where phenomena are of a highly complex nature and exact quantitative formulae are difficult to establish, the possibility of forecasting is drastically reduced. Therefore in the field of socio-economic life where phenomena are even more complex, still fewer quantitatively established regularities will be found, and those that are discovered will have a lower degree of certainty.¹⁵ However, Kondrat'ev notes that the possibility of forecast depends not only on the available supply of knowledge, but also on how this knowledge is utilised and on the peculiarities of the specific phenomenon of which a forecast is desired.

Kondrat'ev outlines three possible types of forecasting of socio-economic phenomena. The first type is concerned with forecasting events of an irregular nature, examples of which are the level of sales or industrial production on a definite date, the concrete level of exports or of prices etc. According to

Kondrat'ev these type of phenomena cannot be included in law-like formulas, and in order to forecast these exactly almost ideal knowledge of the economic conjuncture and all regularities would be required.¹⁶ Since such perfect knowledge is unavailable, then such forecasting is very difficult and liable to error. In order to prove this thesis Kondrat'ev cites the Gosplan control figures for 1925-6. In these control figures Gosplan attempted to predict the price level in each month and as a whole for the year. Prices not only did not confirm the Gosplan predictions, but moved in exactly the opposite direction to that forecast. Thus Gosplan predicted that for 1925-6 as a whole the average level of wholesale prices would fall by 8.3%. Actually they increased by 2.7%. The control figures assumed that the wholesale price index for agriculture would decline by 8%, and for industry by 9%. In fact the former increased by 0.7%, the latter by 4.7%. Gosplan also attempted to predict investment levels, the rate of monetary circulation, and exports. Gosplan predicted a 114% rise in investment and current account holdings, whereas the real figure was 40.5%. The average monetary mass was to increase by 71%, whereas it really increased by only 17.5%, and exports would grow by 138% whereas they actually grew by only 16%. Thus it is clear that Gosplan's predictions for this first type of phenomena proved inaccurate to a large degree.

The second type of forecasting is of events of a more or less regular nature, for example capitalist economic cycles or seasonal conjunctural fluctuations. According to Kondrat'ev predicting such events is also highly difficult, but since such predictions are in the form of a confirmation of the probable occurrence or nonoccurrence in a known period of a regular event, rather than a definite quantitative expression of an indicator, such a type of prediction is more accessible than the first type.¹⁷

The third type of forecasting is a general expression of the development of one or other socio-economic tendency, and is not localised or quantitative in nature. It would be used in relation to predicting whether a particular branch of the economy will grow or not, or whether there will be a general

price increase. According to Kondrat'ev this type of forecasting 'is the most approachable under current levels of socio-economic knowledge', although he notes that the first and most difficult type is usually chosen by Soviet planners.

Kondrat'ev then goes on to explain how expressional forms of forecasting can be of two types: categorical or conditional. In the first case the formula of forecasting is as follows: on the basis of so and so data we consider event X probable. In the second case: on the basis of so and so data we consider that if events A, B, C etc occur, then event X will occur. Since in the conditional form no statement is made of the likelihood of A, B, and C occurring, then this solves the problem 'only by half'.¹⁸

Kondrat'ev discusses Strumilin's attempt at a plan entitled 'Perspective Orientations of Gosplan', published in *Planovoe khozyaistvo* in 1926.¹⁹ This is a five-year plan beginning 1929/30, and Strumilin uses the first type of forecasting, ie quantitative expression of economic indicators. Kondrat'ev criticises Strumilin as follows. Strumilin does not give the dynamic of the general price level, of the relation of industrial and agricultural prices, or of wholesale and retail prices. However, he does include a prognosis for future profits in industrial enterprises. But, according to Kondrat'ev, doesn't this depend on the price dynamic of industrial in relation to other commodities?:

...under one relation of retail and wholesale prices the profit of industry, state trade, and cooperatives will be one thing, but under another relation it will be absolutely different. Because Strumilin does not know what the price relation will be, he must also not know the profits of various branches...²⁰

Kondrat'ev finds the price prognoses which are included to be 'exceedingly problematic', and concludes that 'it is absolutely clear that the task of constructing a perspective plan was tackled insufficiently critically'.²¹

The answer, according to Kondrat'ev, lies with the balance method, which views every economic phenomena in connection with other phenomena:

The balance method approximately establishes the factual balance for the national economy in one or other moment in the past. Expressed symbolically, this gives us the possibility of establishing a quantitative expression of the connections between elements of the national economy A, B, C...X as they existed in the past.²²

However, in order to use this information about past regularities to predict future developments, it is necessary to 'know the laws of change over time of A, B, C etc, and the laws of change of connections between elements'.²³ Kondrat'ev does not explain how to discover such laws, instead he notes that it would be incorrect to conclude that this is a critique of perspective planning in general. It is only a critique of mistaken perspective plans, of bad planning.

In his conclusion to this article Kondrat'ev stresses the following. Firstly, that the given level of knowledge and understanding is a limit to planning possibilities. Given absolute knowledge then total planning would be possible. However, Bolshevik planners are far from the possibility of total knowledge.²⁴ Secondly, that the fetishisation of figures should be avoided. It is necessary to refrain from expressing in quantitative form those indicators which, given the current stage of knowledge, are not possible to predict.²⁵ However, Kondrat'ev emphasises that he is not against all quantitative expression. Thirdly, given the limitations of the current level of understanding, quantitative forecasts should be given in the form of an approximate probability.²⁶ Fourthly, that flexibility between types of plan should be maintained, for example between five year and fifteen year plans. Kondrat'ev suggests that two types of plan should differ in content. Operational plans should be concrete and contain the maximum possible quantitative expression of indicators; perspective plans, on the contrary, should be maximally liberated from concrete and detailed figures.²⁷ Finally, that the business of conducting perspective plans should be concentrated in the centre.²⁸

Kondrat'ev discussed various drafts for the first five year plan published in *Planovoe khozyaistvo* in an article entitled 'Kriticheskie zametki o plane razvitiya narodnogo khozyaistva' which appeared in *Planovoe khozyaistvo* in 1927. Kondrat'ev

argues that Strumilin has two contradictory approaches to planning. The first involves:

...a certain combination of elements of prediction of what is objectively inevitable and projection of what is advisable from the standpoint of our subjective social and class aspirations, in the yearly plans it is prediction that has the paramount role, while in the long-term plans it is prescription.²⁹

This approach Kondrat'ev seems to have no quarrels with. However, this approach is soon crowded out by another very different conception. Strumilin draws an analogy between economic planning and the ordinary art of building. According to Strumilin many of the problems in the art of building, though insoluble theoretically, are solved practically and approximately enough for real needs. Further, such problems can be solved in several ways, since new engineers appear with new designs. In drafting plans, or 'social engineering', we have something analogous. Problems may appear insurmountable theoretically, but are solved quite satisfactorily in practise.³⁰

It is clear why Kondrat'ev would object to this latter approach, since it does not pay enough attention to the limits of knowledge and thus the limits of the planning process, points which Kondrat'ev constantly stresses in his articles on planning and forecasting. He notes that an engineer does not have to solve the problem of whether the building materials and the monetary resources will be available, and if so in what volume; these are taken as given. However, in constructing economic plans these questions have to be answered definitively in relation both to the present and the future; these elements cannot be taken as given. Kondrat'ev thus accuses Strumilin of oversimplifying the plan-making problem, and writes that from this 'it is but a step, and a small one at that, to the forming of plans that are completely arbitrary'.³¹

Kondrat'ev also criticises Strumilin and his co-workers for not clearly elaborating the methods they used in constructing these plans, and for seemingly arbitrary setting of key variables such as the industrial growth rate. He questions why

the centre of gravity of plan construction was so hastily directed towards numerical calculation, without adequate formulation of the basic tasks and methods. Greater effort should be directed towards substantiating the figures given in the plan.³² Kondrat'ev recommends the balance method to eliminate vicious circles and to validate the plan, although he stresses that he does not have absolute faith even in this method. The balance method guarantees only one thing - that the rates of development projected for each branch will be consistent with one another. It does not guarantee that these rates will be either feasible or optimal - separate analysis is required to fulfil these latter two requirements.³³ The basic error attributed to Strumilin and his co-workers by Kondrat'ev is that they sought to accomplish a series of tasks - the maximum crisis-free development of the economy, maximising satisfaction of current needs of the working masses, as rapid as possible advancement towards communism - without taking sufficient account that these partial tasks may be contradictory when expressed in extreme terms. According to Kondrat'ev it is the very best (ie optimal) combinations which are required.³⁴ From this type of criticism it is clear that Kondrat'ev adopted a much more cautious approach to planning than Gosplan.

Some key points drawn from this are as follows. Kondrat'ev emphasised the limits to knowledge, and thus it is easy to see why he might have been unpopular with 'no unclimbed mountain' Bolsheviks. He also stressed the genetic method of plan construction over the teleological, although did not exclude the latter. His conception of discovering empirical regularities in past economic development and then using these as a basis for future planning was shared by many non-Bolshevik planners such as Popov and Groman. However, his emphasis on empirical analysis of dynamic conjuncture and the work carried out in this field was obviously of great importance to the planning process as he conceived it. Without this element, plans would simply be pipe dreams. It is also apparent that he agreed with the Bolshevik association of planning with centralisation.

5.1.3 - THE EFFECTS OF THE MARKET

It is apparent that in many ways Kondrat'ev's conception of the market as being spontaneous and irrational was identical to the orthodox Bolshevik view. However, in other ways it differed. An example of this occurs in Kondrat'ev's article 'K voprosu o differentsiatsii derevni' written in 1927 in *Puti sel'skogo khozyaistvo*. In this article Kondrat'ev discusses conceptions and causes of rural stratification. He notes that there are different types of differentiation, for example economic, domestic, and professional. In its sociological meaning this process will not only be a process of stratification of society (*rassloeniya obshchestva*) into social classes, but also specialisation and the formation of professions.³⁵

Kondrat'ev asks: what are the causes of differentiation in conditions of commodity-capitalist economy? He answers:

The basis and general precondition (*predposilki*) of the rural differentiation process is the existence and development of market relations. If market relations exist then we can say that there is a multitude of different concrete causes which are favourable to the rural stratification process.³⁶

Kondrat'ev claims that if, given the presence of markets, all farms had absolutely the same chances of success in the struggles which characterise markets, then the differentiation process would not occur. However, this equality in chances of success does not exist in conditions of the development of various farms. If one farm has less land and another more, if one farm has nearby transport links and another not, if one farm has a disaster and another not, then their initial conditions are not equal and they do not have equal chances of success in the struggle. If a farm has an advantage in the struggle, then the existence of market relations allows this advantage to grow and multiply, and conversely for a disadvantaged farm. However, does this mean that differences in initial conditions are the cause of differentiation? Not according to Kondrat'ev. He says that:

Without the market and market relations differentiation would not occur. Consequently, the existence of the market and its associated spontaneity is the basic precondition (*predposilki*) for differentiation.³⁷

However, it is revealing that Kondrat'ev uses the word 'precondition' (*predposilki*) here rather than 'cause' (*prichina*). At the beginning of the article he had asked the question what causes differentiation, not what are its preconditions. Kondrat'ev does not say that the market causes differentiation, rather that its existence is a necessary condition for differentiation to occur. This is part of Kondrat'ev's ambiguous relation to capitalism and the market.

Kondrat'ev goes on to link the differentiation process in commodity-capitalist conditions to the growth of productivity, the growth of accumulation and marketability (*tovarnost'*), and to the growth of productive forces in general. This is also linked to the strengthening of the rural/urban division of labour and to the growth of industry. Kondrat'ev notes that from a social point of view this was linked to the growth of capitalist exploitation, but 'if it was true that the process of differentiation accelerated the growth of the productive forces, then it was a factor increasing the welfare of the population', although increasing the welfare of different groups by different amounts.³⁸ Thus for Kondrat'ev differentiation was inevitable and progressive in capitalism.

Kondrat'ev then moves on to the current Soviet situation. While admitting that differentiation is taking place, he claims that it is in a less sharp form than that which occurred under capitalism. However, the cause of the differentiation is identical. Struggle for success on the market, given unequal initial conditions, leads to this inequality being reproduced on an expanding scale. Although the agrarian revolution widened the land fund of the peasantry and significantly equalised land use, it was not fully equalised, and thus there still is a basis for differentiation.³⁹ Kondrat'ev claims that productivity of labour, accumulation, and marketability are all higher on farms of the more powerful groups, as in the pre-revolutionary era, and concludes that reducing farm size too far would be a

mistake. Encouraging cooperation and collectivisation are the general tasks of the economic policy of Soviet power.⁴⁰

It is clear from this article that Kondrat'ev does not absolutely condemn differentiation, since he links it with increased productivity of labour, accumulation etc. In relation to his assertion that the market is the key condition required for differentiation it should be noted that this was simply asserted without argument. Perhaps this was because the market was a Bolshevik *bete noir* and thus the blame for anything which was seen as harmful could be laid at its door, knowing that counter-argument was unlikely to be encountered. Kondrat'ev's account of differentiation was ambiguous in that he cited the market as a precondition rather than a cause, and that differentiation in capitalism was seen as progressive.

5.1.4 - MARKET CAPACITY

An interesting exchange took place between Kondrat'ev and I. Zhirkovich in the pages of *Sotsialisticheskoe khozyaistvo* in 1924 on the subject of market capacity (*emkost' rynka*). Zhirkovich published an article called 'Emkost' rynka i tseny' which aimed to analyse theoretically the influence of agricultural prices on the market capacity of industrial goods, and Kondrat'ev responded with 'K voprosu o vliyaniy urovnya tsen s-kh. tovarov i ego izmeneniya na obshchuyu emkost' rynka tovarov industrial'noi promyshlennosti'. Zhirkovich tried to question the 'widely circulated' view that a lowering of agricultural prices would hinder the development of industry since it would reduce the market capacity for industrial goods. Instead he argued that when labour and capital are distributed according to the actual income of civilians:

...the general market capacity for industrial products absolutely does not depend on the level of agricultural prices. Moreover, that a reduction of agricultural prices to zero...will not reduce the market capacity for industrial products by one unit of real value.⁴¹

The state could distribute the necessary means of production to the rural population, and by means of a tax in kind could receive all the necessary raw materials and means of nourishment for the non-rural classes. Zhirkovich sets out a scheme to prove these assertions as follows, given in arbitrary value units:

ELEMENTS OF PRODUCTION COSTS	CONSUMPTION	MEANS OF PRODUCTION
Raw materials	70	-
Means of production	135	165
Wages	265	185
General sum of productive value	470	350

Suppose that workers with their income ($265 + 185 = 450$) buy agricultural products to a sum of 80 value units. Then rural purchasing power will be ($80 + 70 =$) 150 units. Suppose further that rural income buys means of production to the value of 50 units, and buys means of consumption from industry of 100 units. Under these conditions the market capacity for industrial products will be as follows:

- a) market capacity for consumption products equals 100 (peasant consumption) + 370 (consumption of workers) = 470 units;
- b) market capacity for means of production equals 50 (peasant purchase) + 135 (purchase of first group of industry) + 65 (purchase of second group of industry) = 350 units;
- c) the general market capacity equals $350 + 470 = 820$ units, which also equals the general value of industrial goods.⁴²

If, given the above scheme, agricultural prices decline by for example two times, the scheme will be altered as follows:

COSTS OF PRODUCTION	CONSUMPTION	MEANS OF PRODUCTION
Raw materials	35	-
Means of production	135	165
Wages	265	185
General sum of productive value	435	350

Agricultural purchasing power decreases by half, since rural workers now receive only 40 units instead of 80, and sale of raw materials yields only 35 instead of 70 units. Suppose further that rural workers contract at a lower price, but not a lower

consumption, which equals 50 units as before. Then market capacity for industrial products can be expressed thus:

a) consumer goods equals 25 (peasant consumption) + 410 (consumption of workers) = 435 units;

b) means of production equals $50 + 135 + 165 = 350$;

c) general market capacity equals $350 + 435 = 785$ units.⁴³

Thus all industrial goods under decreased agricultural prices find themselves sold in equal measure: in other words, reductions in agricultural prices does not lead to a reduction of market capacity for industrial goods. Zhirkovich further claims that:

...increasing or decreasing the agricultural price level coordinates changes in the share of industrial product obtained by rural classes...the question of prices is a question of the distribution of income, and not of market capacity for industrial products.⁴⁴

In this argument Zhirkovich admits that he ignores the question of the quality of demand. It is possible that the non-rural population would demand different kinds of products than the rural population, and thus a shift in purchasing power from one to the other would alter the structure of demand.

Kondrat'ev responds to these arguments as follows. Zhirkovich adopts a basically static point of view, and asks the question: what influence on the general market capacity for industrial goods does a *given* (high, low) agricultural price level have? But the correct approach, according to Kondrat'ev, is dynamic, and asks: what influence does the *process of change* (increasing or decreasing) in the price level have on market capacity?⁴⁵ Zhirkovich's schemes are predicated on the belief that changing price levels simply redistributes purchasing power from one group to another, but does not alter the level of aggregate purchasing power. Kondrat'ev attacks this by arguing that it assumes Say's Law. Assuming that all sales are simultaneous and synonymous with purchases, then the market capacity for sales equals the sum of the values of production, and consequently supply. Supply would always equal demand and market capacity, because a sum always equals its components. However, according to Kondrat'ev it is clear that this view is

erroneous, since by determining market capacity through the sum of production, the problem of market capacity is simply abolished.⁴⁶

Therefore Kondrat'ev notes that what he understands by market capacity is not the sum of productive values in general, but the sum of such values which actually, in accordance with demand, can be purchased on markets. This he symbolises as follows:

$$a_1 + b_1 + c_1 \dots n_1 = s_1$$

Between s_1 and s (aggregate production and supply) the following relations are possible: $s_1 = s$; $s_1 > s$; $s_1 < s$. Only in the first case does market capacity equal the aggregate production level. Kondrat'ev stresses also that it is impossible to ignore the effects of qualitative changes in demand, since these will have real effects on the general market capacity. If the total quantity of demand is spread differently between component parts, and these component parts have diverse desires, then the resultant aggregate demand will be different according to how the demand is spread. Thus transferring demand from one social group to another does affect overall market capacity.⁴⁷ Moreover, changes in price levels also affects the overall market capacity. A reduction in agricultural prices will produce a reduction in market capacity.

The practical aspect of market capacity was also investigated by Kondrat'ev. In a 1923 article entitled 'Mirovoi khlebnyi rynok' in *Ekonomicheskoe obozrenie* he gave an interesting analysis of the world grain market and thus the possibilities for Russian export. According to Kondrat'ev the agriculture of the United States is now in a condition where grain prices are lower than costs of production, as follows (in gold kopeks per pood):

AREA	1917		1921	
	Costs	Prices	Costs	Prices
Western states	64	132	62	37
Eastern states	78	161	78	52

Under such conditions agriculture must lose profitability, and thus the extent of production must decline. In fact sown area decreased in the USA between 1921 and 1923.⁴⁸ Kondrat'ev compares grain prices for the major producers as follows (in gold kopeks per pood):

COUNTRY	WHEAT		RYE		OATS	
	1913	1923	1913	1923	1913	1923
Germany	150	152	124	130	122	117
England	121	168	-	-	112	155
USA	105	158	70	108	82	114
Canada	102	149	-	-	70	113
Russia (Moscow)	121	112	86	57	83	79
Russia (Rostov)	113	54	77	35	81	36

Thus Russian prices are now cheaper than the world market price by two or more times. However, since transport facilities are relatively poor, by the time Russian grain reaches its overseas destination any price advantage has been lost.⁴⁹

This section shows that market capacity was an important topic in the USSR in the 1920s. This type of understanding of the market was widespread, and Kondrat'ev argued that the structure of market capacity was important for understanding the potential effects of changes in price levels. Other economists disagreed with Kondrat'ev on this point.

5.1.5 - PRICE INDICES

If the market functioned through price movements, then the study of these movements was obviously important for studying the market. The price index was a main focus of study of the Conjunction Institute. Kondrat'ev and his co-workers discussed the methodologies and techniques used to construct these indices in a book called *Krest'yanskije indeksy: sbornik trudov Kon'yunkturnogo Instituta*, published by Narkomfin in 1927. The book begins with a chapter by Kondrat'ev outlining the main aim of these indices. He writes:

...the market is one of the basic forms determining the organisation and development of peasant economy. The spontaneous market influences peasant economy

through the system of price...Thus it is clear that great significance is acquired by the study of prices, their changes in relation to explaining the development of agriculture, and the influence of state measures on them...⁵⁰

Kondrat'ev distinguishes between a city price index and a price index for local markets. The latter is harder to produce, since the information which is required is more difficult to obtain. Also, because the organisation of peasant economy in each *raion* has its peculiarities, the price index can only be constructed on this level. Kondrat'ev stresses the importance these indices have for constructing plans. They allow a judgement to be made - whether stimulating market development of peasant economy in each region leads to increased intensity, marketability, specialisation etc or not, and thus decisions about state measures required can be made on this basis. Kondrat'ev expresses the confidence that, having worked on the peasant index for many years, he is sure that it is a 'sufficiently exact signal of the probable results of the influence of the market on peasant economy'.⁵¹

One of Kondrat'ev co-workers, N. Lyubimov, has a chapter on the method of constructing and calculating peasant indices. Designating the price of each commodity at various points in the region at each time m by:

$$1p_m, 2p_m, 3p_m \dots kp_m$$

The prices of these commodities at that point at a previous time is designated by:

$$1p_{m-1}, 2p_{m-1}, 3p_{m-1} \dots kp_{m-1}$$

Relative changes in prices over time of previous registration is thus expressed:

$$\frac{1p_m}{1p_{m-1}} \quad \frac{2p_m}{2p_{m-1}} \quad \frac{3p_m}{3p_{m-1}} \quad \dots \quad \frac{kp_m}{kp_{m-1}}$$

The regional average for these changes over a given period of time m through j_m will be given by:

$$j_m = k \sqrt{\frac{1p_m}{1p_{m-1}} \frac{2p_m}{2p_{m-1}} \frac{3p_m}{3p_{m-1}} \dots \frac{kp_m}{kp_{m-1}}}$$

This expression is the formula which the Conjuncture Institute uses to calculate in each period the regional commodity index.⁵² Lyubimov notes that since there are various types of trade - bazaar, cooperative, private - there will have to be different types of index to measure this trade. The Conjuncture Institute utilises mainly bazaar prices, as these are the main places where peasant trade is conducted.⁵³

On a chapter on the peasant index as a guide to changes in the purchasing power of the peasantry, A.L. Vainshtein sets purchasing power (S) equal to:

$$S = M - m + A - B$$

where M equals the sum received from sale of products, m equals the sum expended to buy other products, A equals money obtained by work off the land, and B equals the obligatory payments of peasants, eg taxes. If the quantity of realised products in a given period is denoted by $q_1, q_2, q_3 \dots q_n$, and the prices at which these products are sold by $p_1, p_2, p_3 \dots p_n$, then the general sum of receipts is given by:

$$p_1q_1 + p_2q_2 + p_3q_3 + \dots p_nq_n = [\text{sum}] p_iq_i$$

For a subsequent period an analogous expression can be composed:

$$\begin{aligned} p_0 &= [\text{sum}] p_{0i}q_{0i} \\ p_1 &= [\text{sum}] p_{1i}q_{1i} \end{aligned}$$

If in the first period the sum of receipts from realised products is:

$$p_{01}q_{01}; p_{02}q_{02} \dots p_{0n}q_{0n}$$

and in the following period:

$$p_{11}q_{11}; p_{12}q_{12} \dots p_{1n}q_{1n}$$

then the increase in this period is:

$$\frac{p_{11}q_{11}}{p_{01}q_{01}}; \frac{p_{12}q_{12}}{p_{02}q_{02}} \dots \frac{p_{1n}q_{1n}}{p_{0n}q_{0n}}$$

This gives the change in income of the peasantry, and thus changes in its purchasing power.⁵⁴ Vainshtein notes that changes in the purchase of any one product will have a weighted effect on the particular region which produces it.

These formulae show that Kondrat'ev and his co-workers took seriously the problems of measuring economic indicators. However, it may be noted that these indicators measured categories found in market economies, and thus that theoretical problems arose since the USSR in the 1920s was supposed to be in a transitional phase. If Kondrat'ev proposed using these type of indicators as a basis for plan construction, which he clearly did, then the socialist nature of these plans can be legitimately questioned. If as I noted earlier Kondrat'ev made a large theoretical distinction between capitalist and socialist planning, then this distinction is less readily apparent in his practical work. Since in a transitional economy market elements would be present, study of such elements is clearly legitimate. However, it is the relation of these elements to the socialist elements which is unclear, and thus using them as a basis for plan construction would require further theoretical clarification, something Kondrat'ev does not supply.

5.1.6 - ECONOMIC DYNAMICS

In an article entitled 'K voprosu o ponyatiyakh ekonomicheskoi statiki, dinamiki, i kon'yunktury' Kondrat'ev outlines his views on economic dynamics in some detail. He claims that the marginal utility school are static in character, as is clear from one of its basic assertions - that means of production are distributed to branches in accordance with the principle of equality of marginal utility.⁵⁵ Marx was interested in dynamics, as his work on the law of concentration of capital and on crises shows, but his theory was not systematic.

Schumpeter sees dynamics only when entrepreneurial activity occurs, and statics where tradition dominates.⁵⁶ Kondrat'ev notes that recent work on crises establishes that there are close connections between the changes manifested in various elements:

When an increasing tendency is observed in one element, then an increasing or decreasing tendency is observed in another. This regular connection of changing elements occurs because of the market.⁵⁷

Thus here Kondrat'ev sees the market as a transmitter of changes in economic variables, and thus information which economic subjects require to make decisions, throughout the economy. A sharp decline in such indicators denotes a crisis.

Kondrat'ev gives a definition of conjuncture as 'the direction and degree of aggregate change in the elements of national economic life in comparison with the preceding period'.⁵⁸ A series of such relations would produce a curve of conjunctural motion. Kondrat'ev outlines two types of conjuncture: simple and differential. Simple conjuncture is as outlined in the definition above, but differential conjuncture is a measure of the conjuncture of one branch of the economy in relation to another. The following example is given:

ELEMENTS	SIMPLE CONJUNCTURE	DIFFERENTIAL CONJUNCTURE
	COAL INDUSTRY (relation of moment one with moment two)	COAL INDUSTRY (relation of simple coal conjuncture to simple metal conjuncture)
Price of coal	120	95
Production	110	90
Trade turnover	115	98
Percentage unemployed	116	97

From this it is clear that although coal indicators are increasing, they are increasing at a slower rate than those of the metals industry. Kondrat'ev notes that the scientific significance of this understanding is huge.

Although Kondrat'ev does not specifically mention planning at this point, it is clear from the general principles which flow from other parts of his work that such a technique as

differential conjuncture would be invaluable in the planning process. Empirical regularities based on the analysis of past developments in terms of differential conjuncture could yield growth coefficients which could be used to plan the rates of growth of various industrial branches. In this way Kondrat'ev's concern for realistic planning could be fulfilled.

In relation to the question of the ways and means of industrialisation in the 1920s the question of protectionism was of great importance. Kondrat'ev gave his views on this question in a 1925 article entitled 'Problema germanskogo agrarnogo protektsionizma' which appeared in the journal *Ekonomicheskoe obozrenie*. Kondrat'ev claims that the policy of protectionism is linked to crises. The world agricultural crisis of the 1870s gave an impetus to the transition of the main European countries to agrarian protectionism, and the current crisis promises to do likewise today, as this policy is considered as a means of salvation from crisis. However, Kondrat'ev differentiates between isolated import duties and protectionism erected as a system, and it is this latter form that he is most interested in.⁵⁹

Agrarian protectionism influences the national economy as import duties change the relative price levels prevalent. Many consider that since increasing prices is a stimulus to widening economic activity, protectionism in general is a policy favourable to the economic system. However, Kondrat'ev calls this approach primitive and mistaken. Protectionist policies not only increase the price of a particular good, but also change the relation of prices of goods in all branches of the economy:

Simultaneously it influences the redistribution of social income, and consequently affects the interests of various social classes and groups...it is necessary to investigate this influence.⁶⁰

Using the German economy around the time of WWI as an example, Kondrat'ev reasons as follows. If it is said that one of the characteristics of cereal production is the large scale on which it is produced, and that animal husbandry and the production of technical raw materials are concentrated in small peasant economy, then it becomes clear that the pre-WWI system of German

agricultural protectionism had a 'definite class spirit in accordance with the interests of the industrial and large-scale landed classes'.⁶¹ This is clearly seen in the fact that, for example, in 1913 rye and oats were both subject to a more than 30% duty expressed as a percentage of price, whereas the corresponding figure for raw materials was 10.6%, for swine 6.2%, and for hide 0%. Thus protectionism can be directed towards satisfying the interests of particular class groupings, in this case that of the large landowners growing cereal.

Kondrat'ev argues that for Germany to recover after the war a policy of protectionism would not work. He reasons as follows. The industrial development of Germany requires reducing costs of production as a method of capturing new markets:

But the task of reducing costs of production presupposes a higher productivity of labour and relatively low wages. This possibility exists only on the basis of low price grain...Protectionism in relation to grain does not coordinate with the idea of cheap grain.⁶²

Thus protectionist policies would not assist the development of the German economy. Kondrat'ev concludes by noting that he has been concerned to criticise protectionism as a system, and that this does not mean that it would be in Germany's interest to promote absolute free trade in all agricultural products.

From this article it would be difficult to derive Kondrat'ev's views on the question of protectionism in the USSR. Although he would be against protectionism as a system, he would not be against all protectionist policies and for total free trade. Thus he may have agreed with (for example) Preobrazhenskii's notion of using protectionism as a means for industrial development. If protectionism can be used in the interests of one class in capitalism - the landowners - then perhaps it could be used in the interests of another in the transition to socialism - the proletariat.

Kondrat'ev outlined a model of economic dynamics for capitalist economy in a 1934 letter which is interesting as an insight into his conception of planning. He asserts that in order to determine the dynamic laws of the national economy it

is necessary to formulate the task mathematically and to introduce a new division of the social economy. Kondrat'ev proposes that the basic elements of the economy can be expressed quantitatively as follows: 1) national capital - K ; 2) quantity of population - A ; 3) production of the means of production - P_1 ; 4) production of the means of consumption - P_2 ; 5) the general rate of production - P ; 6) national income - E ; 7) wages - l ; 8) the interest rate - i ; 9) the sum of land rents - R ; 10) the rate of capital accumulation - S .⁶³

In order to determine the laws of change of the economy it is necessary to construct a coordinated system of equations from these ten elements and then to solve them empirically. The equations Kondrat'ev constructs are as follows. Connecting national capital (K), population (A) and national income (E) gives the following expression:

$$E = (dE/dK) K + (dE/dA) A$$

Integrating this produces $E = m/AK$, where m is the level of technique. Other equations are given by Kondrat'ev as follows: $S = dK/dt$ - an expression determining the course of accumulation; $i = dE/dK$ - an expression determining the course of the interest rate; $l = dE/dA$ - an expression determining the course of wages; $P_1 = C + S$ - an expression determining the course of production of means of production; $P_2 = E - S$ - an expression determining the course of production of means of consumption; $P = P_1 + P_2$ - determining the course of the general rate of production; $R = iV$ - determining the sum of rents, where V = the value of land.⁶⁴

The purpose of constructing such a scheme is to then be able to substitute empirically observed quantities into these equations for a given period of time and by this means to discover the general laws of change of all the basic elements of economic life for this period. After determining the relations of parameters on the basis of concrete facts for various countries, it is then possible to determine the law of trends for these countries. Phases of development such as ascent, decline, and stabilisation can be found, and this will allow a

general prognosis of the course of development for a particular country.

Thus it is clear that Kondrat'ev saw such a construction as a means to help forecast development, ie to help with the construction of national economic plans. All his conjunctural work was devoted to this aim. However, what is somewhat problematic is the relevance of a scheme built upon capitalist categories to a socialist economy. It would be possible to argue that, since in the transition period elements of capitalism still exist, calculations based on capitalist categories have some relevance. This may be correct, but it does not show exactly how these calculations will be relevant or can be adapted to transitional circumstances. Elements of socialist categories should also be somehow included. Kondrat'ev does not provide answers to these problems.

In a 1925 article entitled '*Sovremennoe sostoyanie narodnokhozyaistvennoi kon'yunkturi v svete vziamootnoshenii industrii i sel'skogo khozyaistva*' published in *Sotsialisticheskoe khozyaistvo* in 1925, Kondrat'ev analyses the allegation that the cause of the current violation of equilibrium of the national economy is disproportion between industry and agriculture. He disagrees with this diagnosis. It is absolutely clear, according to Kondrat'ev, that this disproportion cannot be absolute, since the total amount of agriculture outweighs the total amount of industry considerably. Thus this alleged disproportion must be of a relative kind, but relative to what?⁶⁵ A base period must be taken for comparison, and if the year 1924/5 is compared with 1923/4 the data shows that industry grew 63.4% whilst agriculture grew by only 7.9%. Gosplan control figures show that in relation to pre-war production industry has achieved a higher level (76%) than agriculture (65%), expressed in contemporary prices.⁶⁶ Thus relative to these figures industry does not 'lag behind' agriculture.

If Kondrat'ev rejects the disproportionality explanation of the goods famine, what is his alternative cause? He writes that the cause must have a dynamic character and must appear sharply in 1924/5, and cites the credit expansion of this period as an

explanation. The year 1924/5 saw an increase in available credit of over two times the preceding year, and Kondrat'ev gives the decisive month as being February 1925, when credit expanded around seven times from 10.6 million to 71.3 million rubles.⁶⁷ This credit expansion had a huge significance for industry, since it gave industry the possibility not only to expand production but also to withdraw from turnover. This increased industrial production took place to a greater degree in the department producing means of production, and the general growth of industry led to increased demand for industrial consumer goods. However, since increased production took place to a greater extent in those branches producing means of production, and since the state stuck to its policy of holding down prices, there were insufficient industrial consumer goods available and thus the goods famine developed.⁶⁸ Hence the disproportion is not between industry and agriculture, but between urban purchasing power (effective demand) and the supply of ready-made industrial goods.⁶⁹

Kondrat'ev argues that it was this disproportion between supply and demand which was the basic cause of the goods famine:

What was violated was above all the precondition that on markets there is a place for only that demand which really flows from the internal mechanism of production and exchange.⁷⁰

An increase in demand created exogenously would inevitably lead to a disproportion, and the credit expansion of 1924/5 was such an increase. Kondrat'ev notes that for example Groman uses the argument that laws of the restoration process can be empirically discovered, and credit expansion in line with these laws is safe. However, Kondrat'ev replies that a law cannot be based upon a single observation only, ie the USSR in the 1920s, and thus there is a risk that a generalisation could be obtained which is not warranted by empirical law.⁷¹

Groman uses the argument that pre-war proportions between industry and agriculture must be re-established. Kondrat'ev questions this. Since radical changes have occurred in the ownership structure of the economy, why should pre-war proportions be taken as 'correct'? In fact even without such

fundamental economic changes, why should the pre-war period be taken as a benchmark? Why not some other period?.⁷² Kondrat'ev warns against attempts to increase production through credit expansion, rather production should be increased on the basis of real accumulation and thus at a pace in line with the rate of this accumulation. It is clear from this article that Kondrat'ev held orthodox 'sound money' views on the question of credit, and perceived the balancing of supply with demand as an essential function of the market.⁷³

Kondrat'ev presented some results of his work on a plan for agriculture and forestry at a plenum meeting of the Presidium of Gosplan on the 4th of July 1925, and a stenographic record of his presentation plus some debate was published in *Planovoe khozyaistvo* under the title 'Osnovi perspektivnogo plana razvitiya sel'skogo i lesnogo khozyaistva' that year. In his presentation Kondrat'ev stresses the difference between teleological and genetic methods of planning, and states that the method which he and his co-workers used for this plan was 'basically genetic, but it included teleological elements'.⁷⁴ The scheme of plan construction used contained the following stages:

- 1) investigation of economic tendencies during the war and the revolution;
- 2) their evaluation from the point of view of definite economic criteria, ie their progressive or regressive character;
- 3) the task of improving and reconstructing agriculture;
- 4) preconditions for realising general economic tasks;
- 5) the system of measures by Narkomzem required to realise the given tasks.

This scheme was used both in agriculture and in forestry.

The basic task related by Kondrat'ev is the development of agricultural productive forces, which in concrete terms means increasing the level of production, increasing marketability and the industrialisation of agriculture, and accelerating accumulation. In terms of measures which Kondrat'ev recommends, the first is in the field of regulating markets. Prices of agricultural products should be held at a level which guarantees the expanded reproduction of agricultural commodities.⁷⁵

Secondly, in the field of foreign trade Kondrat'ev supports the maximal widening of agricultural exports in line with directives from the Congress of Soviets. Tariffs should not fall heavier on agricultural goods than on other goods, and must not prevent agricultural exports. Thirdly, the trade apparatus must be improved. Fourthly, protectionism in industry must not prevent the import of tools and means of production for agriculture. In terms of land utilisation, the most progressive form is of course collective utilisation, but the speed of the transition to this form should depend on the particular conditions in the different regions.

This section on Kondrat'ev's economic dynamics shows that he viewed such dynamics partly in terms of shifts in supply and demand on the market, and partly in terms of real economy concepts such as national capital, population, and national income. For Kondrat'ev study of the relations between economic categories would assist economic forecasting, which was the main focus of the *Kon'yunkturnogo instituta*.

5.2.1 - OPARIN

Oparin's longest and most detailed work was entitled *Kon'yunktura i rynki* of 1928, and was subtitled *Opyt postroeniya skhematicheskoi ekonomii obmena*. In this book Oparin explains what he understands by 'market', and constructs a method for analysing market fluctuations. According to Oparin a market is where economic elements are exchanged. By 'markets' is meant the totality of economic relations arising from the exchange of these economic elements. The market can be viewed from four basic angles: 1) from the point of view of the place where the exchange occurs; 2) from the point of view of the time at which the exchange is accomplished; 3) from the point of view of the object exchanged; 4) from the point of view of the form or character of exchange.⁷⁶ In the first case there can be the world market, the national market, regional markets, city markets, local bazaars etc, ie particular geographical areas. In the second case there can be daily, weekly, monthly, yearly etc time-periods from which to analyse price movements. In the third case there can be money markets, commodity markets, labour

markets etc. In the fourth case there can be large-wholesale, small-wholesale, wholesale-retail, retail etc markets. These categories can be further sub-divided, for example the money market can be divided into a loan market, a stock market, a currency market etc, and the labour market can be classified according to profession, qualifications, experience etc.

Oparin then proceeds by relating how the nature of the commodity in question can influence the market for this good. If the good in question is fresh fish, then the fact that this has to be recently caught influences the relation between supply and demand. A different logic applies on the wheat market, where supply is not determined by production at a given moment, but by the harvest and the import/export balance. The existence of goods which can be substituted (eg fodder grains) leads to the prices of such substitutables being interrelated. There are also 'connected' goods, where the demand for one good stands in direct relation to the supply of another, for example hops and barley in beer production. Thus Oparin stresses that for each commodity type it is necessary to have in mind the relevant particularity when analysing the market for that good.⁷⁷ In relation to time Oparin relates that he uses Marshall's division into four periods. First there is a very short period where equilibrium on markets is established purely by supply and demand. A longer period equilibrium occurs when supply is determined in relation to the possibilities of production with existing tools of production. Then there is equilibrium on the basis of allowing new tools of production to be created, and finally there is equilibrium on the basis of the methods of a definite epoch.⁷⁸

Oparin then turns to an analysis of the general price level. If there is a definite quantity of goods and a definite quantity of money, the money mass divided by the goods mass gives the price of a single good:

$$PQ = M$$

where P = price of a single good, M = sum of money, Q = the quantity of goods. This is the quantity theory of money, and Oparin notes that it has a number of formulations. For example:

$$p_1q_1 + p_2q_2 + \dots p_nq_n = MV$$

where V = the velocity of circulation. Real money in circulation is often replaced by one or other monetary surrogate:

$$PT = MV + M_1V_1$$

where M_1 is the quantity of such a surrogate. In relation to this Oparin discusses Fisher's *Purchasing Power of Money*, a Russian translation of which appeared in 1926 published by NKF, and Keynes's *Tract on Monetary Reform*, a Russian translation of which appeared in 1925. Oparin relates that Fisher adopts the formula $PT = MV + M_1V_1$. M and M_1 can be represented by the means of payment index, V and V_1 by the rate of circulation, P by the general price level index, and T by the index of the real value of all goods turnover. A deficiency of Fisher's formula, according to Oparin, is viewing the total commodity mass as a single whole and contrasting it with the total quantity of money and monetary surrogates. This is because in the sphere of circulation money capital and the consumer fund are different.⁷⁹

A different formulation of the quantity theory is proposed by others, for example Marshall and Keynes. According to Keynes the population usually wants to have a definite sum of money sufficient for buying a definite quantity of goods, which can be expressed in several units of consumption k . Suppose that in circulation there are n banknotes and that p is the price of consumer units (value of life index): then $n = pk$. Keynes complicates this formula as follows. So far it has been supposed that on the one hand all the purchasing power needs of the population are covered by ready cash, and on the other that these needs are the single source of demand for ready cash. However, Keynes continues by supposing that the population finds it convenient to hold k units in the form of ready cash, and a further k_1 units in banks as depositors. Then the following formula is obtained:

$$n = p(k + rk_1)$$

where r = the portion of the bank's current obligation in relation to public provision of ready cash. Thus if in Fisher's formula the quantity of money circulating at a definite velocity is opposed to the quantity of goods, then in Keynes's formula the requirement for money is opposed to the actual quantity of money in circulation. There is no doubt that the quantity $k + rk_1$ changes in connection with the changing quantity of circulating goods and the rate of monetary circulation, and consequently it is possible to transfer between the two formulae. The only difference according to Oparin is that Fisher begins with trade turnover which results in the movement of money in a definite period, whereas Keynes starts from the requirements of the population for money and the quantity of ready cash available at any given moment.⁸⁰ Oparin concludes that Keynes makes the same error as Fisher, which is viewing all monetary turnover as a whole. The problem with this approach is brought into sharp relief when p is considered, which is represented by the budget index. This view comes to the conclusion that the business world calculates its monetary requirement on the basis of movements in the budget index, which in no way coordinates with reality.

Oparin continues by analysing the equation of exchange as presented by Schumpeter:

$$E = MU = p_1m_1 + p_2m_2 + \dots p_nm_n$$

where E = the sum of pure monetary income of all economic subjects, M = the circulating money mass, U = the rate of monetary turnover, m = the quantity of a good, p = the price of a good. This equation states that monetary income equals the circulating money mass multiplied by its rate of circulation, which also equals the sum of all consumer goods multiplied by their price.⁸¹

The quantity theory of money is used by authors mainly for establishing a causal dependence between the various elements, in which some elements play an active role and some a passive role. Oparin stresses that a sweeping solution to this question is not possible, since changes can influence one or other element in the equation. Thus in a period of inflation the

changing quantity of money in circulation is the determining factor in relation to other elements, but in a period of cyclical fluctuation the increased commodity-turnover provokes a rise in money capital with the predicted consequences. Thus in dependence on the psychological motives of economic subjects and the particular conditions prevailing the determining element will be different. In relation to the geographical area examined it is necessary to keep in mind that changes in the price level of one nation can have a decisive influence on the world price level, and thus when analysing causal relations it is necessary to keep geographical location in view.⁸²

5.2.2 - MARKET MECHANICS

Having presented a scheme for understanding markets and an analysis of the various forms of the quantity theory, Oparin turns to a detailed analysis of conjunctural-market fluctuations using the tools he has outlined above. First he takes the long-term movement (45 to 60 years) of the general level of commodity prices. From the point of view of time the empirical curve must be smoothed out in order to remove smaller prominences and to establish the long-term trend. From the point of view of place the most important countries playing the leading role in the world economy must be used, and from the point of view of object, form, and character of exchange the question concerning the relation between the commodity mass and the fund of consumer money should be raised. The quantity of gold in circulation can serve as a correct measure of the consumer money fund.⁸³ The point of this investigation is to establish an underlying theoretical hypothesis (scheme of equilibrium) in relation to the long-term price level, and then to test this hypothesis against empirical data.

Oparin argues that in the long-term it is the quantity of gold in circulation which regulates the price level. He writes that 'if the changing quantity of gold in circulation coordinates with the changing requirement for gold in circulation, then prices will remain stationary'.⁸⁴ To illustrate this position Oparin gives the following example. If

the quantity of extracted gold increased at a lesser rate than the increase in commodity-turnover, then the purchasing power of gold must increase and the general price level would fall. However, the increased purchasing power of gold would encourage further extraction of gold in hitherto unprofitable gold-fields, which would tend to lower the purchasing power of gold and bring the price level back up to its previous level. Having outlined this theoretical scheme, Oparin then turns to concrete statistical material, material which he takes from Cassel. Oparin presents a graph which shows the actual quantity of gold in circulation, the normal quantity of gold (that quantity which would give a stationary price level), the relative quantity of gold, and the price level for the period 1800 to 1910 in England. This graph shows that the actual quantity of gold in circulation followed the normal quantity quite closely, and that the general price level followed the relative quantity of gold closely also.⁸⁵

Adapting the quantity theory of money in its simplest form ($MV = PT$) and ignoring V , $P = M/T$. P is the price index and T is the index of the real of value of goods turnover, in other words that quantity of gold which is required for turnover and to maintain price equilibrium. Consequently M/T is the deviation of the actual from the normal quantity of gold required in turnover. Oparin then gives the following formal statement of the secular equilibrium scheme for this case:

...in the long-term price fluctuations around the level adopted for composing equilibrium are determined by the deviation in the gold quantity actually in circulation from the quantity required for turnover, so as to maintain prices at a stationary level.⁸⁶

Oparin then compares this theoretical scheme with the empirical data which he gives presented above. To do this it is necessary to compare the actual quantity of gold in circulation with the normal quantity, this latter relation being called the relative quantity of gold by Cassel. When this is done it is clear that the relative quantity of gold with sufficient exactitude reflects the fluctuations in the general price level over the

long-term. From 1800 to 1850 they both decline fast. From 1850 to 1880 they rise a little over the 1850 level, and from 1880 to 1910 they fall a little below the 1850 level. Thus Oparin concludes that his scheme is accurate in this case.

He then moves on to analyse cyclical fluctuations in the general price level over shorter time periods such as the capitalist cycle (3 to 11 years). In this case Oparin uses Cassel's analysis. Cassel considers that general price movements in the capitalist cycle are determined by the quantity of monetary means in circulation. This position begins from the quantity theory and can be formulated thus: the relation of the quantity of bank means in circulation to the actual quantity of gold in circulation determines the relation of price movements in the capitalist cycle to their long-term movement, ie to the relative quantity of gold in circulation.⁸⁷ Oparin presents a diagram which shows for the period 1870 to 1910 the turnover of London clearing houses (*raschetnykh palat*) divided by the actual quantity of gold, and the Zauerbeka index divided by the relative quantity of gold, ie the deviation of price movements in the period of cyclical fluctuation from their long-term movement. These two lines move together, indicating their dependence.

However, Oparin is critical of Cassel's analysis in this case. According to Oparin it is impossible to consider that the increase in circulation of monetary surrogates is the determining factor, since this is a consequence of expansion of commodity-turnover, not its determinant. Thus for Oparin the independent variable in cyclical fluctuations is the industrial upturn and the expansion of commodity-turnover, which provokes demand for money capital and causes a credit expansion.⁸⁸ He admits that to establish underlying schemes for cyclical fluctuations would require an analysis of all the components of the trade cycle, something which is beyond the scope of this present work. While Oparin did not go further in this work, he did provide a detailed analysis of the trade cycle in another work which will be examined later.

Oparin moves on to analyse price movements of various commodities. The deviation of demand for a good from normal

requirements will be coordinated by the deviation of the good's price index to the general price index: $M = 1/10 M_0$, ie the quantity expended on the good in money (M) is equal to one tenth of the general trade-industrial capital (M_0). The normal consumption of the good is one tenth of the general commodity-turnover ($1/10 Q_0$). If M is replaced by PQ, ie price times quantity, and $M_0 = P_0 Q_0$, then $PQ = 1/10 P_0 Q_0$. This means that the relation of a good's supply to requirements must coordinate with the relation of the general price level to the good's price (P_0/P).⁸⁹ Oparin then turns to potato prices in St Paul and Minneapolis in the USA as analysed by the University of Minnesota Agricultural Experiment Station in 1922. The investigators constructed schemes of dependence for potato price fluctuations on the following factors: 1) on potato production throughout the USA; 2) on damage to the potato crop; 3) on the movement of the general price level; 4) on yearly growth of demand for potatoes. In addition to showing these dependencies, the investigators showed that the potato price is not influenced by the following: 1) the production of potatoes in states adjoining the investigated market; 2) export and import; 3) general cyclical fluctuations.⁹⁰ From this Oparin concludes that the two elements which can be adopted as basic to the equilibrium schemes in this case are the general price level and the level of demand.⁹¹

Proceeding to other agricultural produce, Oparin presents a diagram showing the relation of the harvest level to the price of hops in England from 1885 to 1907. This shows a simple inverse dependence between the harvest level and the price, ie as the harvest falls the price increases. The same logic applies to hog prices, and for such goods Oparin formulates a law of contrary fluctuation of price and supply (*pravil'nosti protivopolozhnykh kolebaniy*).⁹² However, this law does not apply to all agricultural produce. For example the schemes of dependence for the world wheat price are not as simple as those presented above. This is due mainly to the fact that a relatively small proportion of the total wheat harvest flows onto the world market, and consequently the world wheat price is determined by changes in this small part of world supply. Thus

in order to establish equilibrium schemes for this crop it is necessary to establish connecting laws of grain harvests in various countries with changes in the level of supply and demand for wheat export. In a number of articles for *Ekonomicheskoe obozrenie* Oparin came to the conclusion that the harvest level in the main exporting countries was the primary determining factor of the world wheat price, and that the harvest level in importing countries was only a secondary determinant.⁹³

Oparin then turns his attention to industrial goods, and picks cast-iron as an example. He presents a graph showing the movement of cast-iron output and price for the period 1898 to 1914, composed from Harvard University data. This data has been manipulated to exclude the long-term trend by the method of least squares, and seasonal fluctuations through Pearson's method. The two curves for output and price show an almost simultaneous rise and fall, ie an increase in smelting of cast-iron is accompanied by an increase in price. Thus industrial goods exhibit a totally different connecting scheme between price and production level than agricultural produce. Oparin explains this as follows. On agricultural markets supply changes in relation to climatic conditions, but demand remains more or less constant. Hence there are strong changes in price in relation to supply fluctuations. However on cast-iron markets the primary force is changing demand for these goods, and as a consequence of rising demand prices rise, which in turn provokes increased production. Hence prices and output move in the same direction. Having achieved demand saturation prices begin to fall, which signals for a decline in production levels. Thus as the price falls the level of production declines also.⁹⁴

Oparin then moves on to analyse movements in the interest rate. He sees the interest rate as the price of exchanging current money capital for future money capital, and he presents the economic basis for periodic fluctuations in the interest rate as follows. At the beginning of an upturn there are insufficient finished goods on the market to satisfy the rising demand, and consequently prices rise. This price increase provokes an increase in demand for nominal money capital. Also at this point in the cycle there is a rise in economic activity,

since price rises bring greater profits. This increase in production also increases demand for money capital, as enterprises borrow to fund new production. Increased demand for money capital affects its price, and thus the interest rate begins to rise. For some time it is still profitable to borrow at higher rates, but there comes a time when demand for money capital begins to decline as commodity market saturation is achieved. Consequently as demand for goods declines profits and prices fall, and this provokes a contraction of production. Since demand for money capital falls along with production levels, the interest rate will begin to fall also.⁹⁵ Oparin gives graphs which show the movement of the interest rate together with the movement in the turnover of clearing houses and the quantity of money in banks. The interest rate moves in parallel with the former but contrary to the latter, which shows that the interest rate rises in response to increased demand for money and falls in response to an increased supply of money. Oparin formulates the equilibrium scheme for the interest rate as follows:

...if the demand for money capital is coordinated by the relation between fictitious money capital and cash reserves, then the interest rate will be stationary. If demand for money capital deviates from its normal level then the interest rate must follow.⁹⁶

Oparin then considers the movements of share prices. Shares give the right to own a certain portion of an enterprise and to receive a percentage of the profits in the form of a dividend. Oparin considers that analysis of the psychological motivation for holding shares should concentrate on the income stream they generate. Hence it follows that the share price must be determined by the income of the enterprise in question.⁹⁷ Further, to borrow money in order to buy shares is logical only if the interest rate is lower than the rate of return which the shares will provide. Oparin presents a graph which shows the movement of industrial shares against the seasonally adjusted interest rate for the period 1897 to 1913, and concludes that the turning point for changes in the share price is

approximately the moment when the interest rate falls or rises by 1.25% against its preceding highest point. The lower the interest rate the more advantageous it is to hold shares, and thus the higher the share price. Credit is gradually exhausted as a consequence of loans, and the interest rate begins to rise. When it reaches 1.25% higher than its previous highest point, the share price begins to decline.⁹⁸

Moving on to the exchange rate, Oparin relates that at the root of demand for foreign currency lies international trading turnover. Consequently the level of the exchange rate is determined mainly by the export/import trade balance. If a country imports a greater quantity of goods from overseas than it exports, ie it has a passive trade balance, then it is compelled to pay for these extra imports with gold or money. With an active trade balance a country has a surplus of foreign currency. Hence the exchange rate will rise in the first case - the currency of the country with a passive trade balance will fall in relation to other currencies - and fall in the second - the country with the active balance will pay less for foreign currency. Oparin notes that the trade balance does not fully take into account the totality of accounts between two countries, although it is probably the single largest factor in the total accounting balance, and thus has the greatest effect on the exchange rate.

Under conditions of normal gold circulation fluctuations in the exchange rate occur around gold parity and within the limits of the gold point. If a country's currency declines beyond a certain point it becomes more rational to directly send gold as payment for imported goods, since it would cost more to purchase foreign currency. In consequence of this the exchange rate of gold-backed currencies cannot fall lower than the gold point, ie gold parity plus the cost of gold transfer. Oparin notes that the price relation between two countries under gold is brought into constant equilibrium as follows. If the price of any good in a country fell drastically, then other states would buy this good from overseas, and the price would be pushed upwards in the exporting country and downwards in the importing countries, thus restoring equilibrium.⁹⁹

Turning his attention to the case of paper currencies, Oparin relates the purchasing power parity theory of Cassel. Willingness to pay a certain price for foreign currency rests in essence on the purchasing power this foreign currency has in relation to foreign goods. Hence the exchange rate between two countries is determined by the relation of their internal prices or their purchasing power parity (PPP). However, Oparin notes that there can be another influence on the exchange rate, namely capital flight from one country to another. In this case there is greater demand for foreign bills of exchange, and the exchange rate falls outside the influence of PPP. Oparin gives the following statement for the equilibrium scheme of the exchange rate:

The deviation in the relation of price levels of two countries from the relation set by the gold standard coordinates the deviation of the exchange rate from gold parity.¹⁰⁰

To illustrate this position Oparin provides a graph which shows the relation of USA, UK, and French exchange rates for the period 1913 to 1924. The curve showing the deviation of the exchange rate of France from gold parity is very close to the curve showing PPP. In the war period the fit is less exact, but from 1919 not only the yearly but also the monthly fluctuations coincide. The exchange rate often fluctuates stronger than PPP, but according to Oparin this is due to speculation on the future decline of the internal purchasing power of the currency.

Turning then to the labour market, Oparin starts from the position that capitalists and workers have opposing interests: capitalists want to pay workers the least possible wage, whereas workers want to improve their material conditions. This has the following consequences. In an upturn increased production allows an increase in employment of labour power, and in such conditions workers aspire to increase wages by threatening strikes. Calls for higher wages are also stimulated by the rising general price level which usually accompanies an upturn, and which reduces the real wages of workers. At this point in the cycle the struggle is usually resolved in favour of the workers, as capitalists cannot afford a halt to production. The

reverse is the case during a downturn. Demand for labour falls, prices fall, capital is scarce, and thus capitalists reduce the nominal wages of workers.¹⁰¹ Oparin presents two graphs which show the relation between industrial production and employment of labour power, and demand for labour power against hourly wages between 1899 and 1913. Both sets of curves move together, although hourly wages lags behind demand. Oparin notes that if the movement of wages is compared with the movement of the general price level, then the lag of wages behind prices is clear. He also points out that while on commodity markets changes in price are determined usually by the views of owners of businesses in relation to conjuncture, on the labour market there is a struggle of antagonistic forces, and thus every change in wages is resisted by one of the antagonists. Hence the less intensive movement of wages as compared to commodities.¹⁰²

This gives the substance of Oparin's analysis: now to the conclusion. Oparin stresses the relevance of schematic analysis for socialist regulation. He has shown how comparisons between the movements of various economic elements can be made, and from such comparisons laws of connection can be elucidated:

If socialism is science conducted in all spheres of human activity, then the socialist state must in every way support schematic analysis. The socialist state manages the economy on the basis of planned measures based on the laws of combining economic elements, and for this it is necessary to know the basic lines of schematic equilibrium...¹⁰³

This approach is somewhat Bukharinist in spirit, since it implies planning within the bounds of economic feasibility, ie with regards for market equilibrium. Oparin continues by noting that the economic process in the bourgeois order is represented by an undulating line around equilibrium. These waves disturb economic organisation, and in crises there is panic, unemployment, bankruptcy etc. In socialism, according to Oparin, all this can be avoided:

We are convinced that the socialist state on the basis of recognised laws of connection between economic processes can through regulation avoid periods of crisis, and even other less catastrophic

conjunctural fluctuations. Dynamic processes in the socialist state will develop, as indicated above, according to the fluent lines of schematic equilibrium, without retarding trends and with greater speed. As an engine cannot move against the track on which it stands, the economy can only develop quickly when the friction of conjunctural movements have been eliminated.¹⁰⁴

Oparin further argues that the socialist state has an advantage over its capitalist equivalent in the task of schematic equilibrium, in that while statistical data is collected under capitalism for one or other practical requirement, it is not collected for the purpose of discovering the underlying characteristics of movement of economic elements. In socialism, however, the aspiration to introduce regulation is strong, and thus such characteristics can be elucidated on the basis of schematic analysis.

The supreme leader in bourgeois economy is the market, and thus in Western European and American economic thought the prime directive is taken to be the accurate forecasting of future market fluctuations in order to reap greater profit. The socialist state, on the contrary, aspires to the scientific formulation of laws of dependence between economic elements, and regulation of the economy on the basis of these laws. Oparin calls for the creation of Institutes for Schematic Economics (*Instituta skhematicheskoi ekonomii*) to carry out this programme of schematic investigation. While there are currently many institutes for the study of natural science, there are insufficient number for the study of economics, as even the conjuncture sections of Gosplan and Narkomfin are often viewed as extravagances. Oparin stresses that in such Institutes for Schematic Economics foreign methodology will not present a danger. American and Western European economics is a convenient ground for borrowing statistical-economic methods which will be useful for elaborating laws of connection, since foreign economists have available to them a wealth of statistical material:

The laws of movement of economic elements can be applied to the Soviet economy in those areas when the general movement in our economy is determined

by the world economy, and in so far as the social structure of the USSR does not change the content of these laws...¹⁰⁵

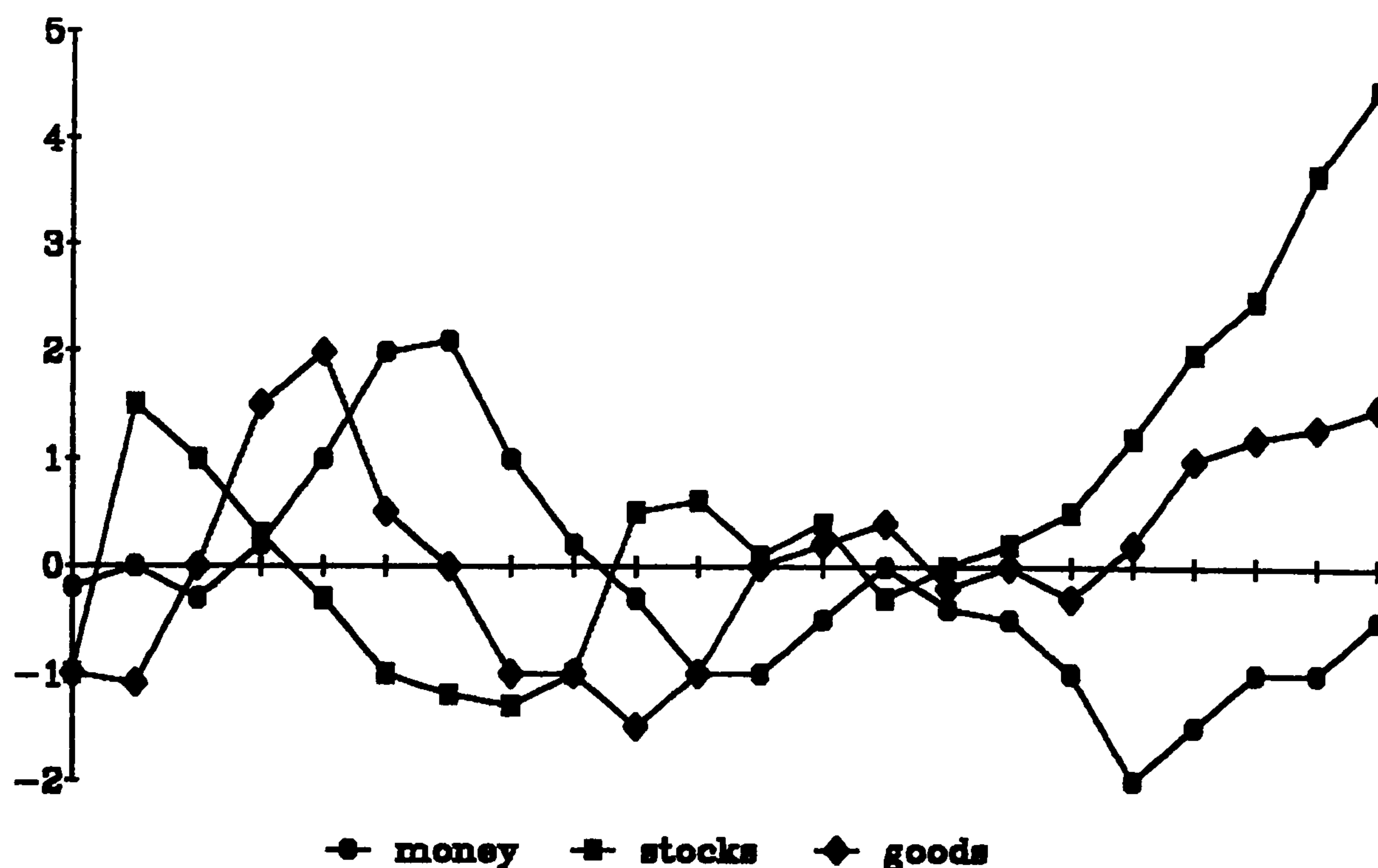
Foreign methodology in Soviet hands can be exceedingly fruitful for scientific work, since the history of scientific thought shows many examples of incorrect theory leading to the uncovering of useful scientific connections between phenomena. Thus Oparin supports the use of 'bourgeois' economics in the USSR in certain areas and with certain reservations.

5.2.3 - THE HARVARD BAROMETER

As mentioned above Oparin gave a more detailed analysis of the business cycle in an article entitled 'Ekonomicheskyy analiz Garvardskogo barometra' published in *Planovoe khozyaistvo* in 1926. Here he discussed the economic barometer created at Harvard university to quantitatively analyse the business cycle by measuring prices on stock, money, and commodity markets. Oparin states that this barometer is fairly well-known among Russian economists analysing conjuncture, and he presents a diagram showing the movement of stock, money, and commodity markets for the period 1903 to 1914. This diagram shows that after the 1907 crisis the first to achieve its minimum at the end of 1907 is the stock market, after which it begins to rise. Commodity markets achieve their minimum in mid-1908, after which they also begin to rise. Finally the money market reaches the trough only at the end of 1908. This same sequence is found during the transition from upturn to downturn. The first to begin to fall is the stock market at the end of 1909, the commodity markets fall at the beginning of 1910, and the money markets begin the downturn in mid-1910.¹⁰⁶

Oparin presents another diagram showing the same three markets for the post-war period. Here the stock market peaks at the end of 1919, the commodity markets in mid-1920, and the money markets at the end of 1920. This is shown as follows:

STOCK, MONEY, AND GOODS MARKETS 1919 to 1928



Oparin concludes from these charts that the Harvard barometer makes it possible to forecast future developments in the sense that the movement of one indicator (eg the stock market) can be taken as indicative of the future movements of other indicators (commodity and money markets). He stresses that although some Russian economists have expressed the opinion that this sequence is based only on observed empirical regularity, in fact this regularity is based on economic laws which are fully apparent. For example, it is clear from the data presented that the movement of the stock market is directly contrary to the movement of the money markets. Although the minima and maxima do not exactly coincide, the contradictory movement is clear in both the pre- and post-war years. Oparin argues that speculation on stock and money markets must be inversely related, since yield falls on paper will make stocks seem more profitable.¹⁰⁷

Oparin continues by analysing the work of Pearsons & Frickey on the relation between money rates and security prices.¹⁰⁸ They attempted to find how far a decline or increase in the discount rate in comparison with its previous minima or maxima would have to go before triggering a turning point. The

turning point in the movement of share prices was not connected with a time lag of a definite amount in relation to movements of the discount rate, but with a level of change of the discount rate compared with its previous turning point. On the basis of statistical analysis Pearsons & Frickey conclude that the turning point in relation to shares occurs when the discount rate falls or rises by 1.25% against its preceding turning point.¹⁰⁹

Oparin then turns to a detailed explanation of the movements of all economic elements in the business cycle as follows, with the aid of a three-part diagram which shows production of consumer goods and means of production with the amount of money in banks, the supply of consumer goods, and commodity prices against the discount rate. In a period of crisis supplies of goods are above the normal level, the normal level being the long-term trend. At this point banks have little free money to lend, so the discount rate is high. Prices begin to fall, which causes a fall in the production of means of production, and as a consequence there is a gradual reduction in production of consumer goods. Even so the supply of goods increases because production is still above the normal level, and the discount rate continues to rise. The decline in production continues until the supply of finished goods peaks and then begins to fall, and prices continue to fall. In connection with the decline in productive turnover the quantity of money in banks begins to rise, pushing the discount rate lower. At the point where the supply of goods reaches the normal level, prices reach their lowest point and begin to rise. After this the production of means of production begins to rise, followed by the production of consumer goods. It is now possible to obtain credit for expanding production, as the banks have spare money available and the discount rate has fallen substantially.

Production of means of production and finished goods rises strongly from this point, and reserves of consumer goods fall while production is below the normal level. Sometime later the amount of available money in the banks begins to fall as credit is given, and the discount rate reaches its lowest point. The

latter then begins to rise, although for some time it is still below normal allowing credit to be obtained. Oparin notes that when the production of means of production reaches its normal level, production should stop rising, but the indicators which entrepreneurs follow fail to give this information, and thus production continues to rise. When the production of finished goods reaches its normal level, reserves of consumer goods begin to rise and prices stop falling. Sometime later production of means of production reaches a peak and begins to fall, credit becomes harder to obtain, and the discount rate begins to increase. A crisis then develops where reserves of goods increase, production of means of production falls drastically, the discount rate rises sharply, and prices fall. The starting point of the analysis has been reached.¹¹⁰

According to Oparin this Harvard barometer analysis is fully correct with certain preconditions. The first is based in the techniques of industrial production, that there is a lag between the requirement for finished goods and its fulfilment, since this depends on an increase in production of tools of production. The second is related to the psychology of economic subjects in capitalist society, that entrepreneurs are led by market indicators which may themselves lag behind reality, and which may indicate profit even when production should fall to avoid crisis. Oparin states that the elimination of cyclical fluctuations is thus possible only when enterprise leaders do not follow the market, but calculate current and future need on the basis of norms 'declared by leaders of social organisations', ie when planning occurs.¹¹¹

Oparin is clearly arguing in this article as follows: capitalism leads to recurrent crises which are wasteful and damaging, thus the market should be replaced by planning, which can avoid such crises and guarantee a smooth equilibrium growth based on calculation of human requirements. Hence although Oparin was sympathetic to Western economics he still believed that a socialist economy could be superior to a capitalist one.

5.3.1 - CONCLUSION

Although Kondrat'ev and Oparin worked together it is apparent that they had different priorities with regards to economic analysis. While Kondrat'ev was very concerned to link his study of economic dynamics with the methodology of planning, Oparin was less concerned to directly relate his study of schematic equilibrium to planning, although he did agree with the general principle that planning requires prognosis. However, as Strumilin argued Kondrat'ev's conception of planning was predominantly the study of market conjuncture and possibility, and this type of planning does not differ greatly from what is now a routine element of contemporary mixed economies.

Kondrat'ev's normative appraisal of the market was ambiguous, as his analysis of rural stratification illustrates. Whether he felt it difficult not to criticise the market in some regard because of the circumstances it is impossible to know. Again the notion of market capacity was used by Kondrat'ev, and again this is a 'demand' conception of the market. The price indices used by members of the *Kon'yunkturnogo instituta* show that the study of price movement was taken seriously by them.

It is clear that Oparin's understanding of what the market actually was and how it functioned was very similar to conceptions held by Western economists in the 1920s, as shown by the typology of markets given in *Kon'yunktura i rynki* and the analysis of the Harvard barometer in *Planovoe khozyaistvo*. However, he believed that regulating production through the market alone was irrational, since it led to under/overproduction, unemployment, and crisis. Planning would overcome these problems by better cognising the laws governing economic processes, and regulating production in harmony with these laws. The purpose of schematic analysis was to discover these laws and the circumstances in which they acted. However, it is apparent that the laws discovered by schematic analysis as presented above were very similar to the laws of market mechanics.

NOTES

- ¹ Kondrat'ev, *Problemy ekonomicheskoi dinamiki* (Moscow: IE AN SSSR, 1989), p.472.
- ² It is not the purpose of this chapter to examine Kondrat'ev's theory of long waves, but perhaps it would be useful to outline Oparin's basic criticisms of Kondrat'ev in this respect. Oparin divides his criticisms into three parts: part one relates to the existence of long waves, part two to the empirical regularities connected to them, and part three to the theory which explains them. In relation to part one Oparin argues that Kondrat'ev's data contains some inaccuracies, is based on 'formal-mathematical' rather than 'schematic equilibrium' reasoning, and reveals the existence of the long wave only in relation to prices and long-term interest rates. In relation to part two Oparin argues that the availability of technical inventions in periods of the falling wave is not confirmed by Kondrat'ev, the large number of social shocks in periods of the rising wave limits and even contradicts parts of Kondrat'ev's conception, and the assumptions about a reduction in the purchasing power of agricultural produce in the downwave are incorrect. In relation to part three Oparin argues that Kondrat'ev's theory of long waves contradicts the facts of economic life and is incompatible with the theory of political economy. See 'Kriticheskii analiz "Bol'shikh tsiklov kon'yunktury" Prof. Kondrat'ev i ob'yasnenie dlitel'nykh kolebaniy nekotorykh ekonomicheskikh elementov' in *Problemy ekonomicheskoi dinamiki*, p.291/2. From this it is clear that Oparin did not follow Kondrat'ev uncritically.
- ³ Kondrat'ev, 'Plan i predvidenie', in *Problemy ekonomicheskoi dinamiki*, p.91.
- ⁴ Ibid, p.92.
- ⁵ Ibid, p.93.
- ⁶ Ibid, p.94.
- ⁷ Ibid, p.95.
- ⁸ Ibid, p.96.
- ⁹ Ibid, p.97.
- ¹⁰ Ibid, p.98.
- ¹¹ Ibid, p.99.
- ¹² Ibid, p.100.
- ¹³ Ibid, p.102.
- ¹⁴ Ibid, p.103.
- ¹⁵ Ibid, p.104.
- ¹⁶ Ibid, p.105.
- ¹⁷ Ibid, p.106.
- ¹⁸ Ibid, p.107/8.
- ¹⁹ Strumilin, *Planovoe khozyaistvo*, no.4 1926, p.30-58.
- ²⁰ Kondrat'ev, 'Plan i predvidenie', in *Problemy ekonomicheskoi dinamiki*, p.114/5.
- ²¹ Ibid, p.116.
- ²² Ibid, p.117.
- ²³ Ibid, p.118.
- ²⁴ Ibid, p.126.
- ²⁵ Ibid, p.127.
- ²⁶ Ibid, p.131.
- ²⁷ Ibid, p.132.
- ²⁸ Ibid, p.134.

- 29 Kondrat'ev, 'Kriticheskie zametki o plane razvitiya narodnogo khozyaistva' translated in Spulber ed., *Foundations of Soviet Strategy for Economic Growth* (Indiana, 1964), p.439.
- 30 Ibid, p.441.
- 31 Ibid, p.442.
- 32 Ibid, p.449.
- 33 Ibid, p.450.
- 34 Ibid, p.451.
- 35 Kondrat'ev, 'K voprosu o differentsiatsii derevni', in *Puti sel'skogo khozyaistvo*, no.5 1927, p.123.
- 36 Ibid, p.129.
- 37 Ibid, p.130.
- 38 Ibid, p.131.
- 39 Ibid, p.136.
- 40 Ibid, p.138.
- 41 I. Zirkovich, 'Emkost' rynka i tseny', in *Sotsialisticheskoe khozyaistvo*, no.1 1924, p.215.
- 42 Ibid, p.216.
- 43 Ibid, p.217.
- 44 Ibid, p.219.
- 45 Kondrat'ev, 'K voprosu o vliyanii urovnya tsen s-kh. tovarov i ego izmeneniya na obshchuyu emkost' rynka tovarov industrial'noi promyshlennosti', in *Sotsialisticheskoe khozyaistvo*, no.1 1924, p.222.
- 46 Ibid, p.224.
- 47 Ibid, p.229.
- 48 Kondrat'ev, 'Mirovoi khlebnyi rynek', in *Ekonomicheskoe obozrenie*, no.11 1923, p.28.
- 49 Ibid, p.30.
- 50 Kondrat'ev et al., *Krest'yanskii indeksy: sbornik trudov Kon'yunkturnogo Instituta* (Moscow: NKF, 1927), p.3.
- 51 Ibid, p.3.
- 52 Ibid, p.31.
- 53 Ibid, p.30.
- 54 Ibid, p.17.
- 55 Kondrat'ev, 'K voprosu o ponyatiyakh ekonomicheskoi statiki, dinamiki i kon'yunktury', in *Problemy ekonomicheskoi dinamiki*, p.50.
- 56 Ibid, p.57.
- 57 Ibid, p.68.
- 58 Ibid, p.70.
- 59 Kondrat'ev, 'Problema germanskogo agrarnogo protektsionizma', in *Ekonomicheskoe obozrenie*, July 1925, p.248.
- 60 Ibid, p.249.
- 61 Ibid, p.251.
- 62 Ibid, p.256.
- 63 Kondrat'ev, 'Model' ekonomicheskoi dinamiki kapitalisticheskogo khozyaistvo', *Problemy ekonomicheskoi dinamiki*, p.412.
- 64 Ibid, p.414.
- 65 Kondrat'ev, 'Sovremennoe sostoyanie narodnokhozyaistvennoi kon'yunktury v svete vziamootnoshenii industrii i sel'skogo khozyaistva', in *Sotsialisticheskoe khozyaistvo*, no.6 1925, p.46.
- 66 Ibid, p.47.
- 67 Ibid, p.52.
- 68 Ibid, p.57.
- 69 Ibid, p.60.

- 70 Ibid, p.61.
- 71 Although Kondrat'ev restricts this argument to a particular case, there is clearly no reason why it should not be applied to the whole planning process. And if this is done it becomes clear that there is no basis for discovering empirical laws from the example of the USSR alone. Comparisons should be made with other countries in similar phases of development, and only from this process can laws be established. Kondrat'ev did not adopt this approach in his work on plans and forecasts.
- 72 Ibid, p.62.
- 73 Kondrat'ev's explanation of the goods famine in terms of a disproportion between supply and demand, although quite powerful, can be questioned along the following lines. If there is such a disproportion, why shouldn't supply be increased rather than demand reduced? Kondrat'ev may respond with an argument that this extra industrial production would have to originate in reduced agricultural production, and that this would further upset the balance in the economy. But if this would be his response, then this is a zero-sum approach to the economy, and other approaches are possible.
- 74 Kondrat'ev, 'Osnovi perspektivnogo plana razvitiya sel'skogo i lesnogo khozyaistva', in *Planovoe khozyaistvo*, no.8 1925, p.101.
- 75 Ibid, p.110.
- 76 Oparin, *Kon'yunktura i rynki* (Moscow, 1928), p.293.
- 77 Ibid, p.298.
- 78 Ibid, p.300.
- 79 Ibid, p.304.
- 80 Ibid, p.306.
- 81 Ibid, p.307/8.
- 82 Ibid, p.309-311.
- 83 Ibid, p.314/5.
- 84 Ibid, p.317.
- 85 Ibid, p.318.
- 86 Ibid, p.320.
- 87 Ibid, p.325.
- 88 Ibid, p.327.
- 89 Ibid, p.335.
- 90 Ibid, p.338/9.
- 91 Oparin gave an analysis of cotton markets in an article in *Voprosy konyunktury* called 'Metod "skhematicheskikh otklonenii" v primenenii k issledovaniyu dinamiki khlopkovogo rynka'. Here Oparin analysed the cotton market from 1835 to 1922 using his method of 'schematic equilibrium'. He calculates various correlation coefficients for the supply of cotton and the cotton price in relation to equilibrium. For the period as a whole the correlation coefficient is 0.530, but excluding the 1861 panic the figure is 0.617. The yearly fluctuations of the cotton harvest and the price for the entire period is 0.673, excluding the 1861 panic 0.707. See *Voprosy konyunktury*, no.1 1927, p.151.
- 92 Oparin, *Kon'yunktura i rynki*, p.340/1.
- 93 Ibid, p.344.
- 94 Ibid, p.346/7.
- 95 Ibid, p.350/1.
- 96 Ibid, p.352.
- 97 In modern terms earnings per share (eps).

- 98 Ibid, p.355/6.
- 99 Ibid, p.358/9.
- 100 Ibid, p.361/2.
- 101 Ibid, p.365/6.
- 102 Ibid, p.368.
- 103 Ibid, p.371.
- 104 Ibid, p.372.
- 105 Ibid, p.376.
- 106 Oparin, 'Ekonomicheskyyi analiz Garvardskogo barometra',
Planovoe khozyaistvo, no.10 1926, p.120.
- 107 Ibid, p.124/5.
- 108 Pearsons and Frickey, 'Money Rates and Security Prices', *The
Review of Economic Statistics*, no.1 1926.
- 109 Oparin, 'Ekonomicheskyyi analiz Garvardskogo barometra',
Planovoe khozyaistvo, no.10 1926, p.127.
- 110 Ibid, p.133/4.
- 111 Ibid, p.136.

6.1.1 - INTRODUCTION

This chapter will examine conceptions of the market within the People's Commissariat of Finance in the 1920s by investigating two leading members of this institution: G.Ya. Sokol'nikov and L.N. Yurovskii. Sokol'nikov was actually the People's Commissar for Finance until 1926, when he was replaced. Yurovskii was a leading member of the Commissariat working particularly on monetary questions.

Grigoriy Yakovlevich Sokol'nikov (1888-1939) became a Bolshevik in 1905, and after the October revolution he was part of the Soviet delegation at Brest-Litovsk. During the civil war he served in the military command, and in 1922 he was appointed Commissar of Finance. From 1924 to 1926 he was a candidate member of the Politburo, and in 1926 he was replaced as head of Narkomfin. In 1929 he became Soviet ambassador to Britain and deputy Commissar for Foreign Affairs. In 1936 he was arrested and a year later sentenced to ten years imprisonment.

L.N. Yurovskii (1884-1938) enrolled at the St Petersburg political institute in 1902, and after this he studied overseas at Munich university and at Berlin university. Returning to Russia he became a correspondent in Siberia and China, and in 1913 he submitted as his dissertation at Kharkov university a monograph entitled *Russian Grain Exports*. He was appointed the first rector at the Saratov Institute of National Economy in 1918, where he published *Ocherki po teorii tseny* discussed below, and in 1921 he returned to Moscow. On 20 September 1922 he was made deputy president of currency management in Narkomfin, and in July 1923 he was appointed to head the currency section. He was also the chairman of the Moscow Commodity Exchange in the mid-1920s. He was later accused together with Chayanov and Kondrat'ev of plotting to restore capitalism, and was arrested. In 1934 he was released, only to be rearrested again in 1937. He was executed on 17 September of the following year.

6.1.2 - SOKOL'NIKOV AND MONETARY REFORM

The monetary reform of 1924 was a major element of the New Economic Policy. In a book entitled *Denezhnaya reforma* of 1925 Sokol'nikov outlined the contents of the various stages of the monetary reform. He states that the first group of measures - action on monetary circulation - included the following features: maximal limiting of the budget deficit and reduction of treasury emission; reduction in purchase of foreign currency by Gosbank and reduction of credit on grain for export; energetic currency and precious metal intervention on free markets; the establishment of a stable currency (the *chervonets*); a categorical prohibition on the issue of monetary surrogates.¹ The second group of measures - action on commodity-turnover - included the following elements: grain exports; state support of grain sales in consumer regions; the organisation of ration intervention on goods required by workers for nourishment, eg meat, sugar etc; increasing imports of industrial raw materials; the liquidation of the commodity ruble; an obligatory reduction of retail prices and the introduction of the publication of retail prices.

Sokol'nikov continues by relating how a reduction of grain prices combined with a reduction in the price of foreign currency allowed a renewal of exports. The reduction in the price of foreign currency led also to imports being more profitable, and according to Sokol'nikov this chain of price realignments led to the stabilisation of Soviet currency in relation to gold and silver.² The first task in currency policy was to achieve gold parity - equality between the *chervonets* and the dollar.

In this work Sokol'nikov also discussed the speed of development of Soviet industry. In so far as light industry was concerned:

The degree of market demand directly determines the maximal amount of production of light industry, and if production of this begins to lag behind market demand, then the amount of lag stands in dependence on the degree of guaranteed raw materials...³

According to Sokol'nikov the development of heavy industry is determined by the scale of orders (ie demand) from light industry and peasant farms, from transport, and from the state. The less is the growth of peasant farms, the less grows not only light industry but also heavy industry, and thus the 'chain' nature of Soviet development is clearly shown. The fast tempo of development of Russian industry until the war was only possible because of the success of foreign loans. If this policy was attempted now it would tie the Soviet republic to the dictates of Wall Street. Clearly Sokol'nikov is not advocating this path in this work.

6.1.3 - EXCHANGES

In a slightly later work entitled *Finansovaya politika revolyutsii* of 1926 Sokol'nikov discusses the question of exchanges in the Soviet context. Quite often the question of the necessity of stock exchanges in current conditions is raised. Can't there be turnover without exchanges, through the operational hall of Gosbank? Sokol'nikov answers in the negative. The unified location for the currency operations of Gosbank and other banks could only be a stock exchange.⁴ In this work Sokol'nikov also speaks of the opening of new stock and commodity exchanges in Moscow, and he states that these events represent a new step forward on the path to creating a monetary economy with all its complexity and regulatory elements.⁵ Several years ago the first commodity exchanges opened. But the circulation of goods signifies the simultaneous turnover of money, and thus the opening of commodity exchanges pre-determined the opening of stock exchanges. However, according to Sokol'nikov it is natural that the process of development of markets took this order of priority, since money markets required more stable relations than those which existed in 1921.

Sokol'nikov states that the organisation of stock exchanges is most significant as a form of organisation of currency markets. Currency markets aid the development of foreign trade, and help exports to be realised for foreign currency. On the other hand stock exchanges are required to allow the use of

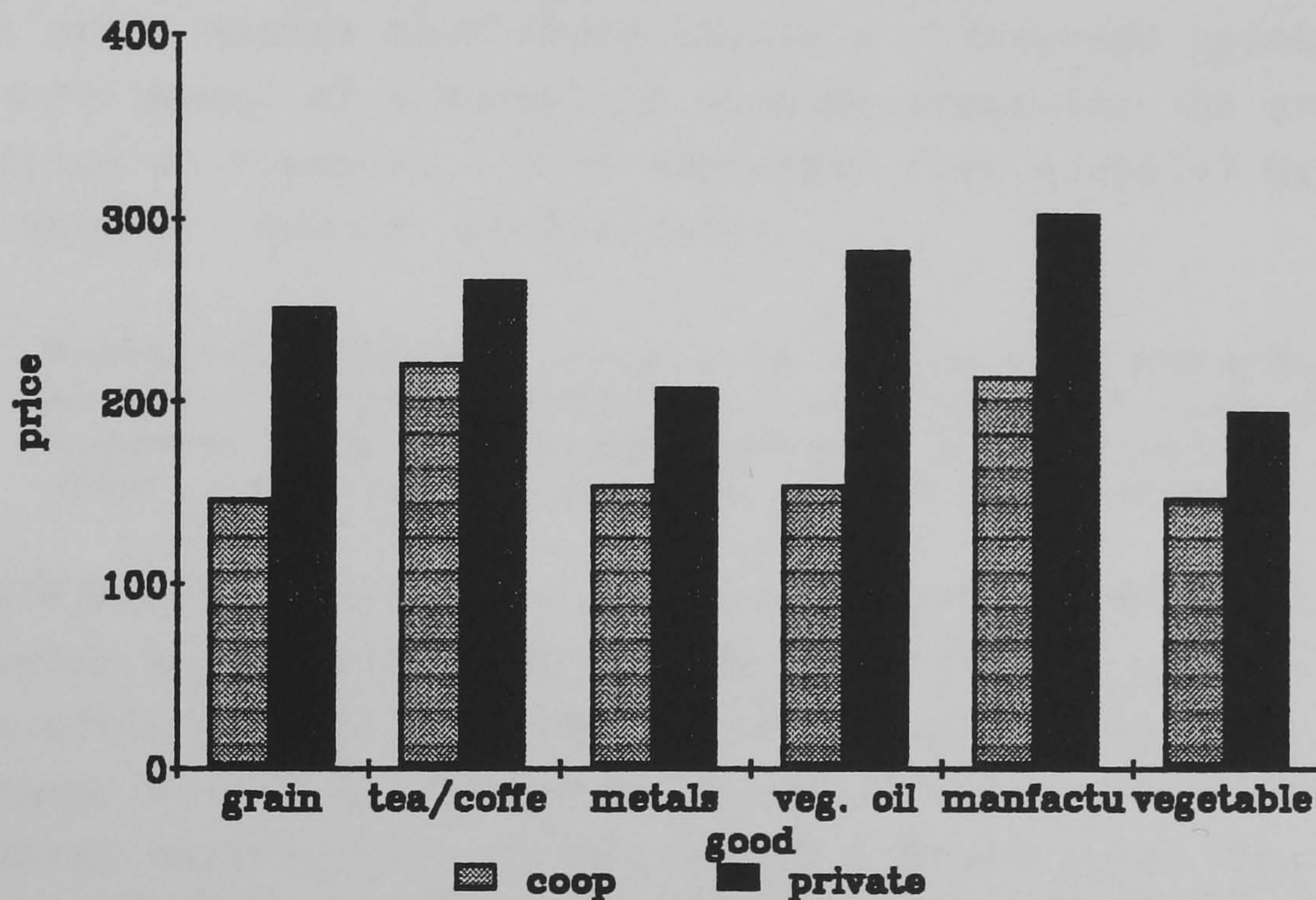
Soviet currency on foreign markets, which is necessary in order to import goods into Russia. Sokol'nikov stresses that 'stock exchanges will establish relations between world currencies and the Soviet currency, ie are regulators of the internal money market.'⁶ The American dollar and the pound sterling will be the major currencies which will figure as gold money, and thus the relation between Soviet currency and these currencies will be the key relationship for the gold value of Soviet money.

Another function of exchanges will result from their role as markets for state stock and loans. Currently bonds in gold units exist, and in the near future state grain loans will be issued.⁷ The process of issuing shares (*aktsionirovaniya*) for state industry and trading enterprises will give stock exchanges a further role. The issue of such bonds and shares will serve for state industry and trade as a means to mobilise and attract money, and this is possible only with the existence of stock exchanges. Sokol'nikov relates how such exchanges differ in capitalist and in Soviet conditions as follows. In the capitalist system exchanges play the role of economic regulators, reflecting the social nature of production and distribution. However, since property is privately owned, the social element is subdued. In the Soviet system, however, stock exchanges will more fully serve a function as a social organisation institute, and state industry, trade, and credit will come to dominate this mechanism by economic, not administrative influence. To master the stock exchanges in NEP conditions signifies the introduction of the planning principle into the economy.⁸

In the third volume of *Finansovaya politika revolyutsii* published in 1928 Sokol'nikov examines prices and price indices. He notes that comparing wholesale prices in the USSR to such prices in various other countries reveals that the relation of these prices to one another is not simple and of a continuous nature. For one group of goods wholesale prices in the USSR are lower than other countries, and for other goods they are higher. For example prices for grain, potatoes, and some raw materials in England, Germany, and France were significantly higher as compared with Soviet prices in September 1926. On the other hand prices for metal and coal were lower in these countries.⁹ The

Conjuncture Institute of Narkomfin has determined the average level of wholesale prices on all groups of goods in September 1926 to be 100 for USSR, 79 for England, and 66 for Germany and France. Thus these prices are on average higher in the USSR.¹⁰ The following chart shows the relation between prices on cooperative and private markets in the USSR in 1926, and was compiled by the Conjuncture Institute of Narkomfin:

**PRICES ON COOP AND PRIVATE MARKETS
IN USSR IN 1926 1913 = 100**



Sokol'nikov notes that this shows that prices on private markets were consistently higher than prices on cooperative markets at this time, in general by around thirty percent.¹¹ However, he does not criticise private markets because of this, rather he just mentions the data in a matter of fact manner. At this time (1926) private markets were still openly tolerated by the Soviet government.

6.1.4 - PUBLIC FINANCE

Right at the end of the NEP period Sokol'nikov wrote a series of works entitled *Finansovaya nauka* published in 1930, which are in effect a course on finance in the Soviet context for

students to read and use. They even have mock questions at the end of each chapter and suggested outline answers. These works are interesting for two reasons. Firstly, they should reveal how Sokol'nikov viewed the foundations of financial science, and secondly as they are written at a time of great change, change which Sokol'nikov might not have totally welcomed, they might reveal something about the attitude of a 'pro-market' economist to Stalin's left turn.

Issue one number two of *Finansovaya nauka* begins with a discussion of the role of finance in a socialist economy. Sokol'nikov states that there exists a widespread opinion that the development of a socialist economy signifies the gradual abolition of finance, a view expressed (for example) by Professor M.N. Sobolev. Sobolev states that:

Financial economy...exists in series with numerous elements of private economy, and can exist with these elements only...the establishment of a socialist order...removes the need for financial economy...¹²

Sokol'nikov questions this opinion. He notes that Sobolev conflates a socialist with a communist society, and further does not explain why the destruction of financial science must accompany socialism. According to Sokol'nikov experience of socialist construction in the Soviet context shows that the problem of the interconnection of a monetary with a socialist economy is resolved less primitively than was first thought by several War Communist economists. In fact, financial economy in a socialist state is immeasurably wider and more complex than the financial economy of the bourgeois state. The proletarian state has great responsibility for the correct organisation of tax and credit, as well as of profit from the point of view of rationality.¹³

Sokol'nikov stresses the importance of distinguishing between three different types of problems of managing a unified socialised economy: technical, economic, and financial. According to Sokol'nikov it is particularly incorrect to drown financial problems in economic ones. He defines financial science, as opposed to economic, as a science:

...concerned with the general basis of the most profitable, from the point of view of the proletariat, construction and development of the economy and of management in a socialist state. The most profitable is such which introduces socialist management with the minimum cost at the faster rate obtaining the maximal resources for socialist construction...¹⁴

In terms of its political context, Sokol'nikov argues that the form of financial organisation is never detached from the state organisation and from the economic relations which coordinate the state. For example the economics of medieval society determined the political way of life (the feudal state) and the financial structure then prevalent. The development of bourgeois relations liquidated the feudal monarch and promoted a planned tax system as the basic source of income for the capitalist state.¹⁵

Sokol'nikov continues by asking the question: what is the difference between the Soviet state budget and the state budget of other countries? Sokol'nikov defines a budget as a financial plan for a definite period which gives the sources and amounts of income which can be distributed by the state in accordance with outlays which are feasible in this period. A major task of the budget is to maintain budget equilibrium - the general sum of income must be coordinated with the general sum of outlay.¹⁶ In the Soviet system the budget is the financial plan for strengthening the socialist state and for redistributing national income. Sokol'nikov then relates how the union budget is analysed by various governmental departments. The budget is reviewed by the Soviet of People's Commissars through Gosplan, where it is analysed from the point of view of coordination with economic plans, and is approved by this organ. The budget is further reviewed by the Budget Commission of the Central Executive Committee (TsIK).¹⁷ The budget is executed through Narkomfin and other organs, and it is Narkomfin which collects incomes and taxes. In reality the budget fund of Narkomfin merges with the funds of the state bank, and a great portion of budget work falls on Gosbank. However, responsibility for fulfilment of the budget falls on Narkomfin in that it has control over the direction of funds flowing from budgetary sources.¹⁸

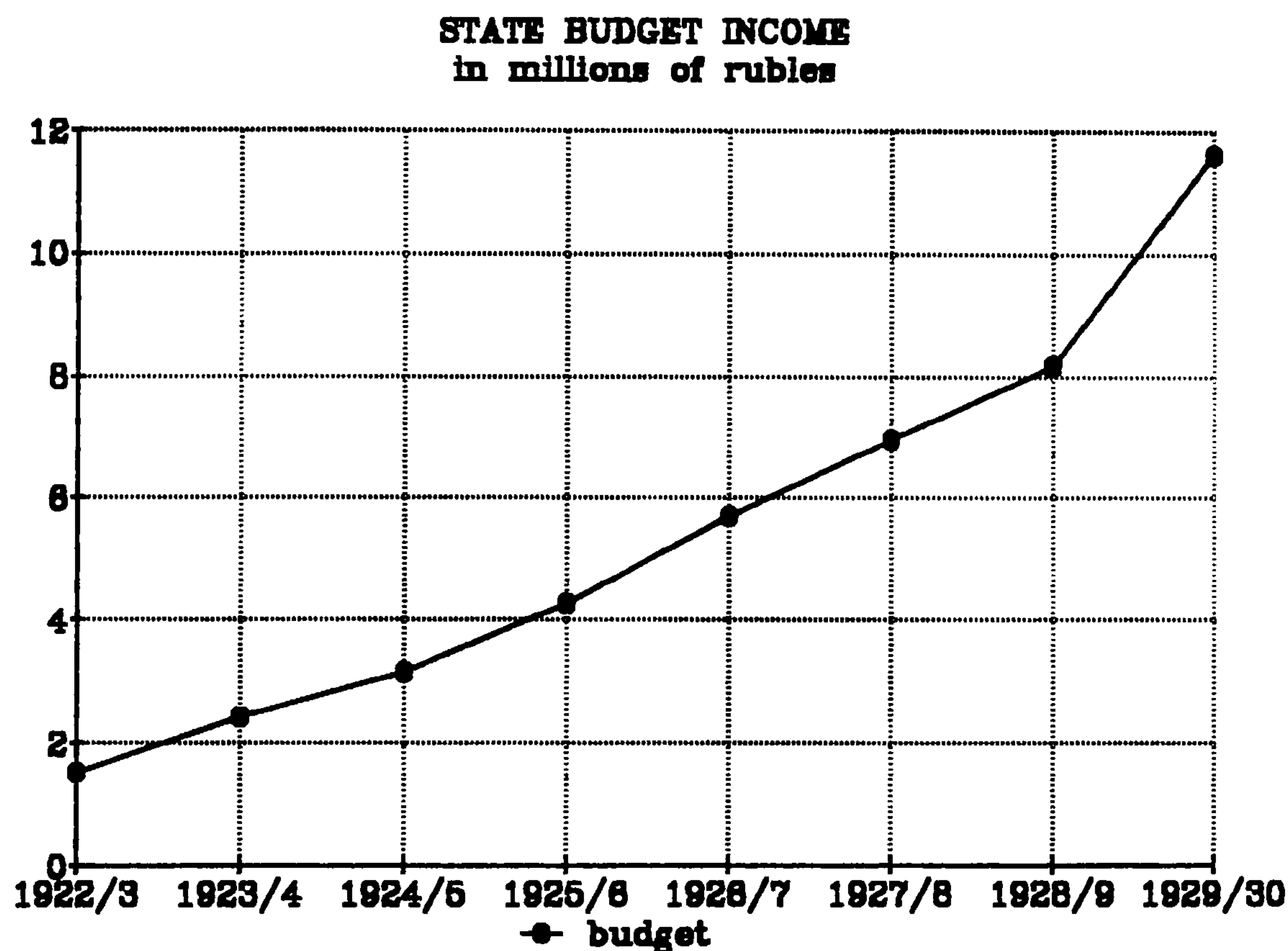
In respect to achieving budgetary equilibrium Sokol'nikov notes that there are two methods. In France unbalanced aspects of the budget are presented to parliament. The Minister of Finance presents the material, and the chamber of deputies produces a balanced budget either by reducing outlay or by establishing additional sources of income. However, Sokol'nikov notes that the budget can also be balanced if income is obtained from credit. But in effect this means that the deficit has simply to be found at some future date, and thus this is not really a method of balancing the budget. It is established practice in the USSR that the Commissar of Finance cannot present to Sovnarkom an unbalanced budget. Thus Narkomfin has the right to reduce local financial estimates as required. However, Sokol'nikov stresses that there is protracted struggle over the precise content of the budget both in Sovnarkom and in TsIK. For example in 1927/8 a budget which was established in Sovnarkom was in the final account increased by 400 million rubles.¹⁹

Sokol'nikov goes on to discuss how budgets are constructed for a future time period. How are degrees of increase or decrease decided? There are various systems. In one system the income of the coming year is set at the level achieved for the previous year. In another system statistical investigations establish the amount of increase/decrease in the course of a series of previous years and projects a value for the coming year. In a third system economic and financial prognoses are used. In Soviet conditions it is necessary to analyse perspectives for economic growth in the current period, and use this as a basis.²⁰

Sokol'nikov notes that while after the transition to NEP budgetary affairs underwent a fundamental restructuring, still after three years of NEP the budget retained a mixed character: it was still partially a monetary budget and partially a natural one, although the monetary side was growing at the expense of the natural. It was not until 1924 that the natural tax system was fully liquidated, coincident with the monetary reforms. For example in the 1922/3 budget all dealings in state resources were conducted in money, but in order to do this receipts from the natural tax were converted to a monetary equivalent. In Narkomprod grain and other products were still distributed in

natura at this time, and these dealings had to be converted to money through a system of account. Another complication in the budget of the first years of NEP was that although it was expressed in gold rubles, the actual monetary income received by the state was mainly in depreciating paper currency. Thus a complicated system of relating gold rubles to paper had to be created which was constantly changing in order to keep up with the depreciation of paper currency.²¹ Sokol'nikov describes this system as a 'set of crutches on which the state budget hobbled'.

The following data given by Sokol'nikov shows the growth of the state budget during the NEP period. According to Sokol'nikov by 1929/30 the budget had no natural element, and no income came from paper money emission:²²



Sokol'nikov continues by discussing the republican structure of the state budget. Local budgets are not included in the state budget, but the single state budget is divided into the union budget and the republican budgets. In the USSR at the present time there are six republics: the RSFSR, Byelorussia, the Ukraine, the Caucasus, Uzbekistan, and Turkmenistan. In December 1929 Tadzhikistan was made an autonomous SSR within Uzbekistan.

Sokol'nikov states that although republics do not have the right to set the total level of their budget, rather this is set by the union TsIK, they do have the right to allocate the given total in the manner which they see fit, ie to which republican departments, sections, and divisions they desire.²³ Sokol'nikov further distinguishes between the right to collect taxes and the right to receive them. Although the union republics receive 99% of all agricultural and income taxes, and the union the remaining 1%, these taxes still remain union taxes. This means that the right to modify or abolish these taxes lies with the union and not the republics.²⁴

In a later number of *Finansovaya nauka* (no.3) Sokol'nikov begins by discussing the general theory of taxation. He says that the study of taxes in the Soviet context must begin with the programme of the RKP(B) adopted at the Eighth Congress in 1919, which states that tax policy must be directed towards the exploitation of the remnants of capitalist ownership.²⁵ The tax system in the USSR plays an important role as a tool for redistribution of national income, as a regulator of the accumulation of various classes, and assists in transferring resources from the non-socialist to the socialist sector of the economy. As it assists in the development of a socialist society the tax system dialectically prepares its own abolition, but at the present time the abolition of tax would only benefit classes hostile to the proletariat.

Sokol'nikov then turns his attention to the question of the basic theoretical conception of taxation, and acknowledges that there exists several understandings of it. Characteristic of the petty-bourgeois conception is the idea taken from Rousseau that taxes involve a 'social contract' (*sotsial'nyi dogovor*). This theory states that society is the result of a contract relation between its members and the state, and in the Russian context Sokol'nikov notes that this notion was developed by 'one of the few Russian financial theoreticians' Nikolai Turgenev at the beginning of the nineteenth century. Turgenev speaks of taxation growing out of the need for private contributions to tasks best accomplished collectively, and Sokol'nikov criticises this approach because study of the actual historical development of

taxation is neglected.²⁶ The most characteristic feature of this approach is the idea of voluntary contributions, which in the interests of all are used to develop community facilities.

Another theory of taxes from the nineteenth century views them as follows. Civilians, giving the state a definite sum, receive for this payment equivalent services from the state. Sokol'nikov claims that this conception reflects the relations which exist on commodity markets and is thus a reflection of bourgeois society. Another theory which flowered at the end of the nineteenth century views taxes as an investment of capital in a profitable enterprise.²⁷ However, Sokol'nikov dismisses all these theories as inadequate. The correct approach to taxation in the Soviet Union is to view taxes as a means of redistributing national income in accordance with the class tasks of the proletarian state. Sokol'nikov stresses that by this he does not mean redistribution between individuals, but between sectors of the national economy and branches of the state economy.

He then goes on to discuss the classification of taxes. First of all he distinguishes between direct and indirect taxes. Indirect taxes are paid mainly on the act of consumption, are paid as part of the price of a good. Direct taxes are demanded straight from the financial apparatus and in the case of workers are paid from wages. Several authors divide taxes along the following lines: tax on production, circulation, and consumption.²⁸ However, Sokol'nikov argues that it is difficult in practice to distinguish between taxes which fall on production and those which do not. He prefers to distinguish between taxes which fall on accumulated values or on current income - speaking in capitalist categories either on capital, on surplus-value, or on wages. Another division often used in public finance is to divide taxes into real and personal. A personal tax is levied on the general total income of a person irrespective of what the source of this income was. A real tax falls on various income sources, and is not connected with an individual person. Personal taxes can take into account circumstance, which is ignored by real taxes, and thus there is a welfare minimum below which such taxes are waived.²⁹ In the USSR this minimum is set at 1200 rubles per year for a worker's income (1000 rubles in the

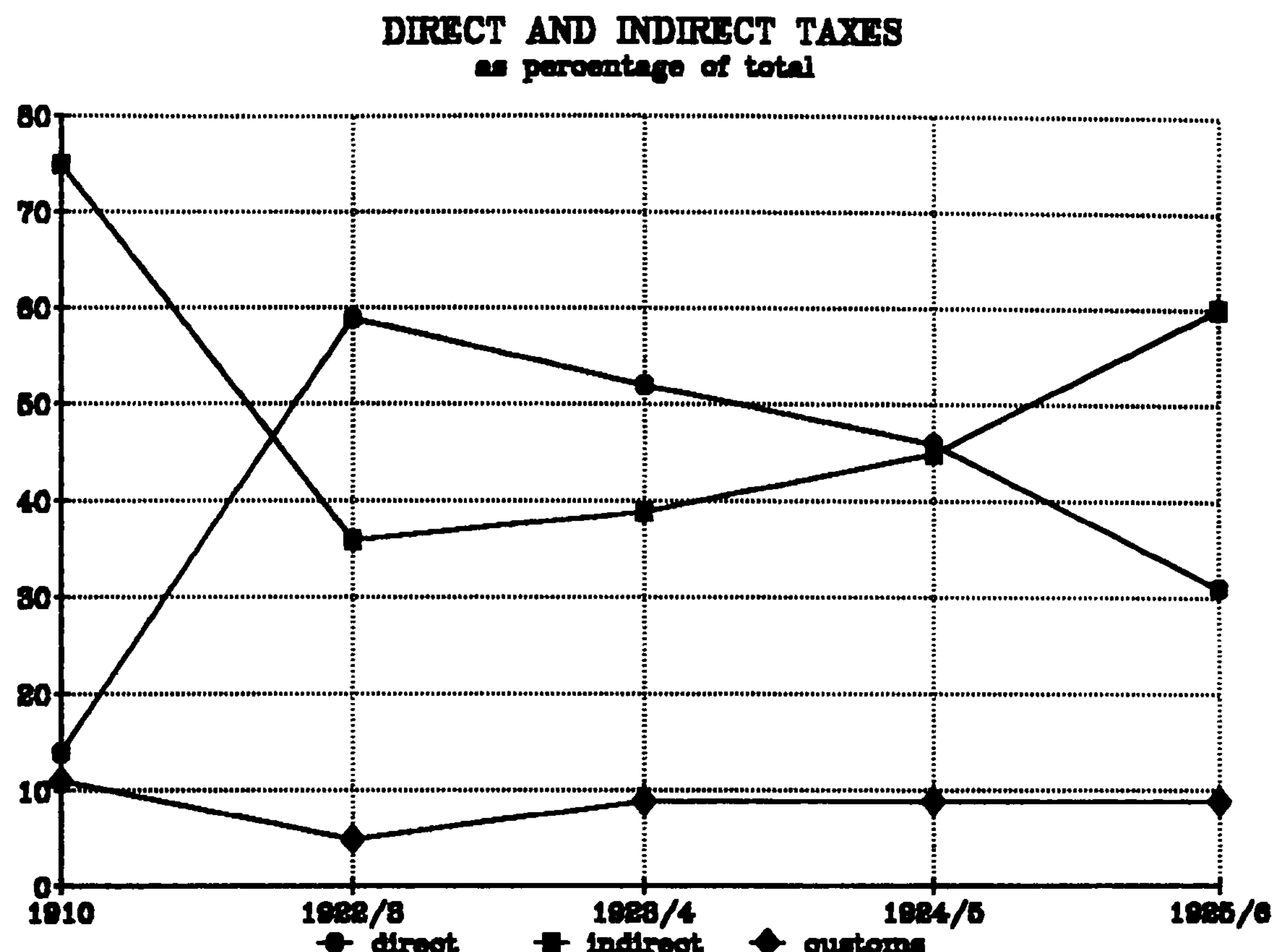
localities). Taxes can be further divided into routine and exceptional. Exceptional taxes are levied in times of war and famine, and in the USSR a famine tax was levied in 1922.

Sokol'nikov then continues by discussing the difference between the payer and the bearer of a tax. The payer is the person who directly pays the tax, the bearer is the person who in the final account the tax falls on. For example, suppose that the *promtax* is increased. Traders are compelled to pay higher taxes and thus their profit margins are squeezed. In order to counteract this the trader increases the prices of his goods, ie passes the tax on to the consumer. If this consumer is a worker then the response might be increased wages. Since wages are an element in the cost of production of a good, this increase in wages might further increase the price of the good or prevent it from being produced. If the former then traders have to ask even more for the good, and the spiral continues. Thus the payer of the tax does not necessarily coincide with the bearer.³⁰

Sokol'nikov notes that this spiral is in fact a class struggle to determine who in the end will pay for the increased tax. Thus the question of taxation is closely linked with the question of the redistribution of national income between social groups. Another example of how taxation can influence price is as follows. Suppose the current price of a piece of land is 100,000 rubles and the income received from this plot of land is 15,000 rubles. If a land tax is introduced at 5,000 rubles then the income will fall to 10,000. If the owner attempts to sell this plot of land after the land tax has been introduced, a prospective purchaser will not pay 100,000 rubles for the land and receive 10% income if this 100,000 rubles invested in another economic branch can earn 15%. Thus the price will fall to 65,000 rubles, and the introduction of a land tax has resulted in a general fall in land prices. Sokol'nikov notes that historically bourgeois classes were constantly struggling with landowning classes over the distribution of the tax burden.³¹

Sokol'nikov claims that the tax system of pre-war Russia gave huge privileges to the upper classes. The prevailing type of tax was indirect in nature and was levied on sugar, spirits, beer, tobacco, and oil products. Pure income from vodka sales was

575 million rubles in 1909. There were also taxes on land and on real estate, an industrial tax, and a tax on income from capital. The data which Sokol'nikov gives on the relation between direct and indirect taxes can be presented as follows:³²



This reveals that although the coming of the Soviet regime brought significant changes to the relation between direct and indirect taxes, as time passed the Soviet government was slowly moving back towards pre-war norms. Sokol'nikov states that in future years tax policy will be directed towards increasing the role of direct taxation. In the budget for 1929/30 direct taxes accounted for 45% and indirect taxes 51% of the total.

In the current USSR budget the single agricultural tax, the *promtax*, income tax, tax on superprofits, inheritance tax, and the basic tax on cotton are forms of direct taxation. The basis of the single agricultural tax is a direct tax on income received from land. Sokol'nikov notes that the development of this tax eloquently shows the gradual transition from natural taxation to monetary, and he stresses that to confuse this tax with the pre-war land tax would be mistaken.³³ He also stresses the difference as compared to *prodrazverstka*; the system which replaced forced

requisitioning specified a definite tax obligation on the peasant farm, and after this obligation was met the peasant was free to dispose of his produce as he saw fit. According to TsSU the value of goods confiscated from peasant farms in 1920/1 was 632 million rubles, whereas in 1921/2 the amount taxed was 386 million rubles, ie a reduction to 65% of the 1920/1 figure. The single agricultural tax was actually introduced on 10 May 1923, and it divided the country into two basic regions: a consumer region and a producer region. In the producer region, where a surplus of grain was produced, the peasantry were given the option to pay either in money or in kind. Criteria for determining the amount of tax to be paid were: quantity of arable land, number of mouths to feed, quantity of working livestock, and crop capacity. A table was produced in which farms with differing amounts of arable land were divided into nine groups, farms with varying livestock four groups, and farms with different crop capacity eleven groups: in total there were 396 categories. However, it was not until 30 April 1924 that natural taxation was fully liquidated. Under the new monetary system livestock was transformed into arable land by means of a conversion system for the purposes of determining the level of taxation.³⁴

Sokol'nikov relates that a fundamental restructuring of agricultural taxation occurred in 1926/7, when for the first time non-land workers and the production income of peasant farms were included in tax criteria. Activities such as vineyard cultivation, bee-keeping, income from small stock-breeding, and anything of industrial character were made subject to tax. However, Sokol'nikov notes that the agricultural tax is still not a tax which fully conforms to the norms of income taxation. Income tax is levied on the amount of actually received income, not an estimation of this income calculated from indirect criteria such as amount of arable land and livestock. But in practice to calculate the actual income of 27 million peasant *dvors* is not possible, therefore the present system remains.³⁵

Sokol'nikov then goes on to discuss income tax *per se*. In general the income tax is an urban tax which is levied on all income except income for agriculture, and it is a personal tax which falls not on gross income from various sources, but on the

total pure income of an individual. Income tax is not levied on those receiving a wage below a certain minimum, is progressive in nature, and contains family advantages.³⁶ Sokol'nikov relates that in Western Europe classification is usually made into three differing systems of income tax: the English system, the German system which is totally different from the English, and the French system which is a compromise between the two. However, Sokol'nikov prefers to use only two categories: the German type, which is the most developed application of the principle of progressive personal income taxation, and other compromise types (the English and French systems) in which elements of real taxation which historically were prevalent still remain and dilute the progressive personal element.

In the English case, for example, a vestige of the system of real direct taxation remains in the schedule system. Schedule A relates to income from land and real estate, schedule B to agriculture, schedule C to capital, schedule D to trade and industrial activity, and schedule E to wages. As the English schedule system unites five different taxes it is thus a compromise.³⁷ The basic deficiency of the schedule system, according to Sokol'nikov, is that it prevents the full implementation of the progressive idea. Sokol'nikov continues by describing how a purer type of income tax system exists in Germany. In Germany if an individual has a house, some land, owns a factory, and receives income from state bonds, he is not taxed under various schedules, as in England, rather tax is levied on the total sum of income according to the principle of progressive rating.³⁸

In the USSR income tax was restored in 1922. It approximated to the German type, but it did not yield large amounts in tax because of a lack of correct and reliable forms of financial accounting and because of the depreciating currency. In 1923 the law on income tax was altered and this tax was divided into two components, a basic rate element with four categories according to zone of locality, and a progressive rate element levied on income from 300 to 500 rubles per year. Thus until 1926 income tax in the USSR was composed of two elements, but in 1926 the basic rate element was abolished and three bands of progressive

taxation were established, according to Sokol'nikov, 'on the basis of class principles'.³⁹ In band one were workers whose tax burden progressed from 0.7% to 30%, in band two were artisans, handicrafts, and persons of free profession, whose burden progressed from 2.5% to 35%, and in band three was unearned income, the taxation of which ranged from 3% to 45%. The minimum wage below which taxation was waived was 1200 rubles per year for Moscow workers, and this amount was lower for other classes.⁴⁰

Sokol'nikov continues by stating that the significance of income tax in the state budget has declined in recent years. This reflects the decline in activity of private capital in the USSR in this period, and is compensated by a significant increase in revenue from enterprises in the socialised sector.⁴¹ In addition to income tax on private capital there was introduced on 18 July 1926 a tax on super-profits. Turning to business taxation, Sokol'nikov notes that the roots of the business tax lie in the guild system, where employment is regulated through membership of guilds. Members of guild organisations paid a fee in order to trade, and this fee was the first form of business tax.⁴² With the development of bourgeois relations this fee became a licence/patent paid to the state. The business tax in the USSR however is a tax on (gross) turnover.

Moving on to the credit system, Sokol'nikov first notes that the USSR is in a transitional stage, and thus the Soviet economy is not a complete socialist economy. Since commodities still circulate on markets, money, as an expression of commodities, will also circulate. A credit system can exist in an economy only in so far as money having a commodity character is preserved. Therefore the existence and development of credit relations in the USSR is closely connected with the character of the money system. Sokol'nikov asks: what is the role of the credit system in a capitalist society? The banks concentrate in their hands the money capital of bourgeois society, and socialise free capital within the limits of the bourgeois class. Thus credit in capitalist society spontaneously breaks the framework created by private ownership, as the walls which divide the capital of one from the capital of another are broken.⁴³ The development of the

banking system in bourgeois society means that great power is concentrated into the hands of the banks.

In a socialist system, according to Sokol'nikov, this process of socialisation which has dialectically developed within capitalist society receives its full expression. The role of banks as accounting centres increases, as does the socialised nature of accounting operations. It is impossible to say that the current Soviet banking system fulfils completely the function of social book-keeping, since elements of private economy remain. Suppose that a Soviet trust places 500,000 rubles in wages in the state bank. If the USSR had a fully socialised economy, then the trust would pay this money to workers as wages, and the workers would spend their wages in cooperative shops. These shops would in turn pay their suppliers - Soviet trusts - for the products they receive. The trusts would return the money to the state bank, and the process would continue.⁴⁴ However, in fact trusts pay wages to workers, who spend their money partly at cooperative shops and partly on the free market. From the free market money can accumulate in the private sector, and thus non-socialised forms of credit can exist. Sokol'nikov notes that:

In the private sector money circulates not as a certificate expended on socially-necessary labour or as a receipt for a definite portion of national income, but functions as the universal commodity - money.⁴⁵

Thus the current Soviet credit system has a dual and transitional nature.

Sokol'nikov states that in capitalist society amortization means are given by banks to the branches of the economy which are most profitable. In a socialist system, however, banks give funds for amortization to those enterprises which are deemed to require re-equipping by the economic plan. Although the capitalist banking system allows some degree of socialisation of credit, profit is still the driving criteria that determines which enterprises receive credit. Thus while the current Soviet banking system is externally analogous to the capitalist system, the key difference is that credit is given not for profit, but to fulfil the economic plan.⁴⁶ Because of this fact amortization means can be

directed towards new capital construction instead of restoring equipment in old factories.

A technical difference between capitalist and Soviet credit forms is the following. Enterprises in capitalist economies can receive supplementary funds for capital outlay by direct appeal to the money and stock markets through the issue of loans or equities. Enterprises in the USSR are not allowed independent and direct appeal to money markets, rather they receive such supplementary means indirectly through the state. The state issues bonds to the general population, and the receipts from such bonds can be directed to fund capital growth.⁴⁷

Moving on to a more detailed view of the credit system, Sokol'nikov outlines that the state bank has two main functions: an emission bank, and a bank of banks, ie a regulating centre. But it also serves as the credit centre for the national economy, being the largest bank to offer short-term commercial credit. Three other banks specialise in long-term credit: the Industrial Bank for Long-term Credit, the Central Agricultural Bank, and the Central Bank for Communal Credit.⁴⁸ Active bank operations in the first years of NEP proceeded according to the form adopted from the practice of the pre-war credit institutions of Russia, but the growth of the planning principle modified this method.

The budget is the next topic discussed by Sokol'nikov. The state budget is in fact a financial plan for state economy. In a capitalist system the state budget is concerned only with economic enterprises in a definite branch, and is not concerned with the overall relations between these enterprises. In the Soviet system, however, things are different. Relations between enterprises - in industry, agriculture, transport, banking etc - are included in the state budget according to the principles of planned economy. The budget in the USSR is thus one of the elements of planned economy, one plan among many.⁴⁹ After the budget the financial plan for industry is an important element of the planning system. It outlines the degree of production, realisation prices, movement of workers and wages, changes in costs of production, profit rates, and capital construction etc.⁵⁰ Thus Sokol'nikov outlines the basic elements of financial science.

From the above presentation it is possible to see a change in Sokol'nikov's attitude between his works from the mid-1920s to the ones written in 1930. In the latter category Sokol'nikov stresses the class nature of financial policy to a greater degree and is more aggressive towards elements of private economy. He also seems to regard the budget as one among many economic plans. It is difficult to say whether this change was really a reflection of what Sokol'nikov felt, or whether he was forced into following the general line through fear. It may also be possible that Sokol'nikov thought that the line might return to what it was in the mid-1920s, and thus the swing away from a pro-market position might be reversed. In this case he could have followed the general line only to remain in place when the line again changed.

6.2.1 - YUROVSKII AND PRICE THEORY

In 1919 Yurovskii published a work entitled *Ocherki po teorii tseny* in which he analyses in some detail various classical and neo-classical economic doctrines in relation to questions such as price determination and interest rates. Some of the economists which he uses are: Tugan-Baranovskii, Dmitriev, Pareto, Jevons, Walras, Marshall, Fisher, Gossen, Schumpeter, Bohm-Bawerk, Clark, Ricardo, Cournot, Smith, Struve, Cassel, and Thunen. However, it is striking that, apart from one mention in a footnote of little significance, Marx is nowhere to be found. Even more significant is the overall tone of the writing. There are none of the usual Marxist criticisms of neo-classical doctrine that can be found in Bukharin's *Politicheskaya ekonomiya rant'e* of 1914, and contrast with this work is very illuminating. Overall it is clear that Yurovskii took recent developments in economic theory very seriously, and was not particularly concerned to defend Marxist economics against such developments. It seems unlikely that he would have regarded himself as a Marxist at this time.

In this work there is quite a detailed discussion of marginal utility doctrine. Yurovskii notes that marginal utility is actually based on psychological postulates, according to

Dmitriev four postulates, the first two of which are: 1) with an increasing supply of a good at the disposal of a subject, the marginal utility of each subsequent example of the good available decreases; 2) it is always possible to increase the quantity of a product available to such an extent that its marginal utility becomes zero.⁵¹ Yurovskii notes that for Pareto it is not necessary to have an exact measure of satisfaction, it is sufficient only to have an index of satisfaction.⁵² Yurovskii is somewhat sceptical of this approach, as he states that these propositions seem like platitudes which are known by everyone. Conclusions are required which go beyond simple statements of the obvious.

Yurovskii gives an interesting presentation of the equations developed by Walras in his *Elements of Pure Economics* of 1874 to model supply and demand equilibrium. They are based on the idea that prices are functionally related to the quantity of goods available. According to Yurovskii when current economic theory says that demand or supply is a function of price, or that price is a function of demand or supply, this can be expressed as follows:

$$D_a = F_a(p) \text{ or } O_a = F_{1a}(p)$$

Equilibrium exists between supply and demand when $D_a = O_a$, and then the following equality is obtained:

$$F_a(p) = F_{1a}(p)$$

Geometrically this can be represented as two curves, the point of intersection being the equilibrium price. Walras shows that supply and demand in connection with the prices of all economic goods can be expressed as a system of equations, the number of which equals the number of unknowns, thus allowing solutions to be found. In such a system the demand for each good is a function not only of its price, but the price of all goods. For the goods A, B, C, ... with prices p_a, p_b, p_c, \dots the following equations are formed:⁵³

$$\begin{aligned} D_a &= F_d, a (p_a, p_b, p_c, \dots) \\ D_b &= F_d, b (p_b, p_a, p_c, \dots) \\ D_c &= F_d, c (p_c, p_a, p_b, \dots) \end{aligned}$$

$$\begin{aligned} O_a &= F_o, a (p_a, p_b, p_c, \dots) \\ O_b &= F_o, b (p_b, p_a, p_c, \dots) \\ O_c &= F_o, c (p_c, p_a, p_b, \dots) \end{aligned}$$

Under conditions of equilibrium between supply and demand:

$$\begin{aligned} F_d, a (p_a, p_b, p_c, \dots) &= F_o, a (p_a, p_b, p_c, \dots) \\ F_d, b (p_b, p_a, p_c, \dots) &= F_o, b (p_b, p_a, p_c, \dots) \\ F_d, c (p_c, p_a, p_b, \dots) &= F_o, c (p_c, p_a, p_b, \dots) \end{aligned}$$

Yurovskii notes that in this form the contemporary theory of price expresses the relational dependence between prices and other economic quantities, and does not attempt to find a single source which determines price but is independent from it.⁵⁴

Yurovskii outlines some problems with the Walrasian approach as follows. It is essential to the above set of equations that the price of any one good is dependent on the prices of other goods, and this means that if the price of any good changes the whole system of prices must also change to maintain equilibrium. However, in reality all prices are not set simultaneously, rather some prices will be given (eg p_b and p_c), while others will not (eg p_a). This leads to the position that all current evaluations are in fact determined by previous evaluations, and consequently to the idea that theoretical clarification inevitably leads to historical investigation of the price of a good. The above equations can be rewritten in the form:

$$\begin{aligned} p_a &= F (D_a, p_b, p_c, \dots) & [1] \\ p_b &= F (D_b, p_a, p_c, \dots) & [2] \\ p_c &= F (D_c, p_a, p_b, \dots) & [3] \end{aligned}$$

This means that given prices coordinate given demand under a definite price. In equation one p_a is the unknown price, but p_b and p_c exist on actual markets as antecedent prices. But as equation two shows in order to know p_b it is necessary to know p_a , and thus p_a must here be an antecedent price in relation to p_b . This means that the p_a in equation two cannot be the p_a from equation one. In fact the time period is crucial. Today's price of a good depends on yesterday's prices of all goods, including the price of milk. But yesterday's price of milk depends also on the price of all other goods the day before yesterday, and

infinitum.⁵⁵ Applying this to the system of equations, if p_a in the second equation is not p_a in the first equation, and p_b in the third equation is not p_b in the second, then a closed system of equations in which the number of equations equals the number of unknowns is not obtained, and a quantitative solution to general equilibrium remains elusive. In order to surmount this problem Yurovskii proposes that the subjective evaluation of a good depends not on the past prices of all goods, but on currently existing prices.⁵⁶

Yurovskii continues this work by outlining Bohm-Bawerk's presentation of price formation through the law of marginal pairs. His presentation is similar to Bukharin's exposition from *Politicheskaya ekonomiya rant'e*, and it is thus clear that this conception must have been well-known among Soviet economists at this time.⁵⁷ I noted in chapter two that it was likely that Bukharin had Bohm-Bawerk's formulation in mind when he spoke of the 'law of supply and demand'. It is worth pointing out that one of the goals of Walras's *Elements of Pure Economics* was to give a rigorous statement of the law of supply and demand. According to Walras this fundamental law had 'hitherto been stated either erroneously or in a form devoid of meaning'.⁵⁸ For Walras this law had two elements: the law of establishment of equilibrium prices and the law of variation of equilibrium prices. The former meant that effective demand had to equal effective offer, the latter that value in exchange was proportional to *rarete*, and thus that if the ratio of *raretes* of goods remained the same, prices also would remain unchanged.⁵⁹ Thus when Soviet economists from the 1920s speak of the 'laws of supply and demand' it is possible that they have in mind Bohm-Bawerk's or Walras's presentation, as both were generally known at this time.

Yurovskii also discusses Cournot and monopoly in this work, and asks the question: how will it affect prices if instead of one seller there are two? If a monopolist increases the proposed quantity of goods beyond that which gives maximum pure profit, then the price will fall and the monopolist will obtain less profit on each good. Suppose that prices of the good decline faster than the growth of quantity of goods sold, for example that the quantity of goods sold increases by 10% but the price

declines by 15%. Assume that there are two sellers which sell the good in equal parts. One of the sellers may be tempted to increase their supply in order to gain from the 'beneficial moment' when his sales will increase. This discussion reveals that, indirectly at least, Yurovskii knew that prices are not always unit elastic, although he does not directly bring out the consequences of this fact.⁶⁰

Yurovskii devotes a large section of this work to analysing the significance of and the techniques used to calculate prices quoted on exchanges (*birzhi*) such as commodity and stock exchanges. For Yurovskii exchanges are the most organised example of markets and provide extremely useful material for theoretical analysis, although he notes that the practices of different exchanges are highly diverse. Many exchanges aspire to register prices of all the transactions concluded in a day at the end of the day. On the New York stock exchange dealers issue reports concerning every deal concluded to a committee, which notes the prices and disseminates this information to brokers, banks, and other interested persons. Data concerning fluctuations of the price and the quantity sold at a given price are printed in an official bulletin.⁶¹ On the London stock exchange the broker questions the jobber as to the price to be paid for stock, and in the case of a deal being concluded the broker is obliged to officially note the rate. According to Yurovskii as a rule the broker gives little significance to obtaining the rate published in the bulletin, and prefers not to waste time on reporting deals. Therefore there is a widespread conviction that the broker notes the rate only when he has concluded an unfavourable deal and must show the client that such a price actually existed on the market.

Furthermore, bulletins published by exchanges give only the price which characterises a series of fluctuations over a time period, for example a day. In Berlin dealers act to establish a 'first rate' for the day at 12 o'clock. This price is then adopted as the officially established rate. At 2 o'clock a concluding rate is established. If, for example, the price of a given stock moved as follows in a day - 179.5, 179.125, 178.75, 179, 179.25, 178.75, 178.5 - then the bulletin may note only the

following sequence of prices - 179.5, 178.75, 179.25, 178.5. The rules for composing bulletins state clearly that not all price movements are required to be recorded, rather only the nature of the movements need to be noted.⁶² On the Hamburg coffee exchange prices are set at 10 o'clock and at 2 o'clock, decisive significance being given to the latter quotation. In the bulletin of the Frankfurt stock exchange the average price for the day is printed, and in Vienna the bulletin records the highest and lowest price over the day. Few bulletins give only a single price. Often they give: 1) the limits of daily fluctuations; 2) starting and finishing prices, or highest and lowest prices; 3) only the concluding price together with the final declaration of buyers and sellers, or the supply price and the demand price; 4) an average price over a time period.⁶³

Yurovskii gives a more detailed account of the methods used in the Berlin stock exchange as follows. In this system the bulletin price mixes with the actual price on the exchange. From 12 o'clock until 1.30pm dealers take commissions from buyers and sellers and note them in their books. Deals begin at this time but are not yet concluded, since the price is still unknown. From 1.30pm to 2 o'clock a single rate is established, and this rate corresponds to what the majority of commissions indicate. Every dealer sets a rate which corresponds to the majority of commissions which he has received, and from these individual dealer rates a single rate on the exchange is formed by consultation.⁶⁴ Struve notes in *Khozyaistvo i tsena* that this type of single rate is something intermediate between the typical value and the average calculated statistically from a series. According to Yurovskii the unified rate of the Berlin exchange is the price which establishes equilibrium between supply and demand. Assume the following data is obtained from buyers and sellers:

PRICE	BUY	SELL
100%	40,000	10,000
101%	25,000	20,000
102%	30,000	25,000
103%	15,000	30,000
104%	10,000	50,000

The price which would coordinate equilibrium between supply and demand is 102%, since $(10,000 + 15,000 + 30,000) = (10,000 + 20,000 + 25,000)$. At 103% supply (85,000) exceeds demand (25,000), and at 101% demand (80,000) exceeds supply (30,000).⁶⁵ Yurovskii states that this method for establishing an equilibrium price given supply and demand schedules is identical with the method used on the Berlin stock exchange, the method used by Marshall in his example of the corn market from the *Principles*, and the method used by Bohm-Bawerk in his *Osnovy teorii tsennosti khozyaistvennykh blag*. Thus in essence the methods used by exchanges aspire to establish an equilibrium price between supply and demand, and this method is faithfully documented in economic theory.⁶⁶

Yurovskii continues by discussing the notion of *tatonnement* as conceived by Walras. Yurovskii notes that there is a 'period of *tatonnement*' in which prices fluctuate around the equilibrium value, and all deviations from the equilibrium price result from imperfect information (*netochnoe znanie*) of market conditions. Since actual prices fluctuate around the equilibrium price symmetrically, the equilibrium price can be viewed statistically as the average of the actual series of prices.⁶⁷ However, Yurovskii emphasises that all the above reasoning has taken place within a static framework, and that when the idea that equilibrium between supply and demand forms a price is used this picture of the market does not fully coordinate with reality, since a fully stable equilibrium never occurs. Yurovskii quotes Jevons's *Theory of Political Economy* of 1871 to the effect that the neo-classical model of a market does not in practice accurately represent any real market, since (for example) accidents and speculation is ignored.⁶⁸ According to Yurovskii *tatonnement* arises from the fact that on actual markets the degree of supply and demand is at first unknown, so a process of approximation or 'groping' towards the equilibrium value occurs.

Yurovskii discusses Marshall's example of a corn market in a country town where all corn is of equal quality as follows, taken from the *Principles of Economics*. Assume the following data set:

	PRICE	SELLERS	BUYERS
I	37s	1000	600
II	36s	700	700
III	35s	600	900

The equilibrium price is 36s. However, trade can begin at a higher or lower price. Suppose that at the start of the day 200 units of demand were satisfied at 35s. These buyers can come from different groups as shown above, ie from those who would buy only at 35s or from those who would buy at 36s. When the latter possibility is the case, table one below forms, when the former occurs, then table two forms:⁶⁹

PRICE	1		2	
	SELLER	BUYER	SELLER	BUYER
37s	800	400	800	600
36s	500	500	500	700
35s	400	700	400	700

In the first table the equilibrium price will be 36s. In the second table, however, the equilibrium price will not be 36s, since 200 units of unsatisfied demand remains, 100 units of which would be satisfied at 37s. But a price of 37s is not actually reached, since then supply would outweigh demand. The equilibrium price is actually established between 36s and 37s, and thus in comparison with the first table the equilibrium position has changed. Yurovskii writes:

It is a general rule that the first deal is not conducted at the equilibrium price...If this deviation is adopted by buyers and sellers...then the equilibrium position must change. Consequently the equilibrium which we have is not stable.⁷⁰

Yurovskii notes that although the first deal could be conducted above or below the equilibrium price, this could be compensated by the second deal being concluded below or above the equilibrium price. He also states that the influence of deals conducted at non-equilibrium prices should be insignificant on sufficiently large markets. Both of these arguments could be true in some cases, but the possibility of upsetting the equilibrium price by concluding deals at non-equilibrium prices remains.

It is worth comparing Yurovskii's presentation with Marshall's original. In fact Yurovskii follows Marshall in virtually every respect. On the question of the influence the taking of non-equilibrium prices may have on future dealings, Marshall writes that his assumption of practically no effect 'is justified with regard to most of the market dealings with which we are practically concerned'.⁷¹ Marshall argues that since purchases on commodity markets are usually only a small part of a persons total resources, there is no appreciable change in willingness to part with money if early payments had been at a non-equilibrium high (or low) rate. He does admit that on the labour market such effects could be important. Yurovskii follows Marshall and offers no criticism of his approach in this respect.

Returning to the nature of prices, according to Yurovskii price formation under given supply and demand is a static problem, and in such conditions the prices formed can be called static equilibrium prices, or the average market price. Around static equilibrium prices fluctuate prices actually paid in definite places and times, which can be called actual prices. An example of a static equilibrium price is the average price given in an exchange bulletin.⁷² From this definition of a static price it follows that economic statics investigates the question of equilibrium in relation to a simultaneously given supply and demand. Yurovskii goes on to discuss another type of price related to economic dynamics, which he calls the natural price or the dynamic equilibrium price. Static equilibrium prices fluctuate around dynamic equilibrium prices, and the latter are viewed as being fundamentally determined by the law of costs of production, costs which are composed from two basic elements: wages and profit.⁷³

If in a given system of equations with prices $p_a, p_b, p_c, \dots, p_n$, these prices coordinate with costs of production and if there are no changes in conditions such as population size, then these prices are dynamic equilibrium prices. If these prices fail to coordinate with production costs, then further changes in the direction of establishing a set of dynamic equilibrium prices $p'_a, p'_b, p'_c, \dots, p'_n$ will occur. Yurovskii stresses that all types of equilibrium are related to given conditions. In the case

of dynamic equilibrium prices, the preconditions are: 1) a constant number and composition of population; 2) constant needs which give constant demand curves; 3) unchanging technique and organisation of production; 4) constant availability of goods; 5) unchanging distribution. All changes in the above conditions would automatically lead to a change in equilibrium.⁷⁴ It is worth comparing Yurovskii's presentation of the typology of prices with that present in the work of classical and neo-classical economists, and for this purpose I will use Smith, Ricardo, Marshall, and Walras.

In *An Inquiry into the Nature and Causes of the Wealth of Nations* of 1776 Smith has a chapter entitled 'Of the natural and market price of commodities' in which he makes the distinction as follows. There is in every society or region an ordinary or average rate of wages, profit, and rent, regulated by circumstance and the nature of employment, and when these natural rates are just covered by the price of a good the good is at its natural price and is sold for what it is worth.⁷⁵ The actual or market price can be above or below the natural price due to fluctuations in supply and demand. When supply equals demand, then the market price will equal the natural price, and the natural price is the central price to which all prices gravitate.⁷⁶ Ricardo in his *Principles of Political Economy and Taxation* of 1817 gives a slightly different presentation in a chapter entitled 'Natural and market price'. A good is at its natural price for Ricardo when the comparative quantities of labour necessary to produce commodities is the rule which determines exchange ratios. Actual or market prices can deviate from natural prices due to movements in supply and demand.⁷⁷ When all goods are at their natural price the rates of profit are equal in all branches, allowing for differences caused by advantages possessed or foregone by particular employments. It is free competition, ie the desire of every capitalist to transfer funds from less to more profitable areas, which prevents the market price from staying above the natural price for any length of time.⁷⁸ Ricardo refers to Smith's analysis of this question as being very useful.

In his *Principles of Economics* of 1890 Marshall speaks of this distinction as follows. The contrasting of normal and market prices refers to the time taken for moral and physical influences to have effect. In the short term supply and demand has a greater role, in the long term costs of production have a larger influence.⁷⁹ Average prices are taken from any set of sales over a period, but the normal price is the price which any one set of conditions tends to produce. The average price equals the normal price only in a stationary state.⁸⁰ According to Blaug in *Economic Theory in Retrospect* what Smith calls the market and natural price is identical to what Marshall calls the short period and long period price.⁸¹ In his *Elements of Pure Economics* Walras does not mention the distinction between normal and market price at all. He is concerned to analyse the formation of equilibrium prices, and this means analysing the action of changes in supply and demand.

What can be seen by comparing Yurovskii's presentation of a typology of price with that present in classical and neo-classical theory? Firstly, Yurovskii stresses the notion of equilibrium price, something taken from Walras rather than Smith or Ricardo. However, while appropriating the terminology of neo-classical economics, Yurovskii keeps some elements of the classical typology by making a distinction between static equilibrium prices and dynamic equilibrium prices. Secondly, Yurovskii adheres to the idea that prices are determined in a fundamental sense by costs of production, and thus again uses an idea from classical economics. This is apparent from his position that dynamic equilibrium prices are determined by costs of production. Neo-classical theory did not totally reject the costs of production approach, as shown by Marshall's famous scissor blades of utility and production costs, but it did shift emphasis onto supply and demand.⁸² In Yurovskii's conception costs of production seem primary and utility only secondary.

Returning to *Ocherki po teorii tseny* Yurovskii seems to admit further on in the work, in contrast to his position outlined previously, that prices taken at non-equilibrium levels will forever alter the equilibrium position. He notes that the 'accidental' conclusion of a deal not at the natural price

changes the distribution of income, creates new demand, and can call forth changes in the cost of production of some goods. Even though dynamic equilibrium will attempt to restore itself spontaneously, the new equilibrium position will be different from what would have been the equilibrium position if the deal at a non-equilibrium price had not been completed. Thus a system of dynamic equilibrium is inherently unstable, and in the case of a disruption of equilibrium the system will act so as to restore an equilibrium position, but not necessarily the one which existed before.

Yurovskii relates how dynamic equilibrium prices are of theoretical and practical interest. They are theoretically interesting because they represent prices not readily apparent from average market prices. Practically they are of interest in the following type of problem. Owners of large bakeries wishing to buy flour from a large trading exchange where prices are unusually high in relation to the usual level can wait until more normal levels are restored if they know world harvest levels. But this sort of judgement relies on comparing an average market price with an (estimated) dynamic equilibrium price, and assuming that the former will soon gravitate back towards the latter.⁸³

Another topic which Yurovskii discusses in relation to Walras is the theory of marginal productivity. According to Walras this theory involves two propositions: first that free competition brings costs of production to a minimum, and second that when cost of production equals the selling price (ie at equilibrium), the price of services are proportional to their marginal productivities.⁸⁴ The first proposition can be seen to imply the normative conclusion that a system of free competition is the most efficient and hence superior system which should be aspired to, although Walras makes no such explicit claim at this point. Walras presents this algebraically as follows. Let b_t , b_p , b_k, \dots be the quantities of productive services T (land), P (labour), K (capital) required in the production of a unit of commodity B. Consequently the cost of production per unit will be:

$$p_b = b_t p_t + b_p p_p + b_k p_k + \dots$$

Walras assumes that in producing a good it is possible to use more or less of some productive services, provided that less or more of another is used. This means that the coefficients of production b_t, b_p, b_k, \dots are related in the following production equation, with Q being the quantity of B manufactured:

$$f(Qb_t, Qb_p, Qb_k, \dots) = Q$$

If $Qb_t = T, Qb_p = P, Qb_k = K$, then:

$$Qp_b = Tp_t + Pp_p + Kp_k + \dots$$

$$Q = f(T, P, K, \dots)$$

Differentiating Walras obtains:

$$\begin{aligned} df/dT &= p_t/p_b \\ df/dP &= p_p/p_b \\ df/dK &= p_k/p_b \end{aligned}$$

This is how the minimum cost of production is obtained according to Walras.⁸⁵ At this point in the text Walras does not show explicitly how these equations relate to minimum costs being expended. But in an appendix on Wicksteed and rent added to the third edition of 1896 he is more explicit. He writes:

...the entrepreneur, proceeding, as is his wont, by *tatonnement*, adds to or subtracts from the quantity of each productive service according as the value of the [marginal] increment of this service is less than or greater than the value of the [marginal] increment of the product which this increment of services produces, until the following equalities are reached:⁸⁶

$$P = (df/dA)A + (df/dB)B + (df/dC)C + \dots$$

This equation reveals how the total quantity of output is distributed among productive services, and it is Walras's implication that this distribution is optimal. In lesson twenty two of the *Elements* Walras makes it explicit that he is advocating free competition as leading to utility maximisation. He writes:

...the equations we have developed do show freedom of production to be the superior general rule. Freedom procures, within certain limits, the maximum of utility; and, since the factors which interfere with freedom are obstacles to the attainment of this maximum, they should, without exception, be eliminated as completely as possible.⁸⁷

A clearer normative statement about the superiority of *laissez-faire* would be difficult to find. Since Yurovskii mentions the *Elements* often in his *Ocherki* it is hard to believe that this argument was not clearly understood by him.

Yurovskii discusses the idea of marginal productivity in *Ocherki po teorii tseny* as follows. He writes:

...theoretically we can assert that only in conditions of a *rational* organisation of the economy, free competition, and complete mobility of labour and capital, neither one of these factors of production could be applied in a quantity below its optimum...but this would be a *petitio principii*.⁸⁸

If increasing capital expenditure by 5%, 10%, 15%, would give an increase in profits of 10%, 25%, 40% respectively, this means that the quantity of capital is not in correct relation with the quantity of labour, ie capital expenditure is not at its optimum. But where should the extra capital come from? In theory from less profitable areas, but what if there are no such areas? Yurovskii points out a number of difficulties in relation to this idea. The army of unemployed would seem to indicate that in many cases the quantity of capital has already exceeded its optimum in relation to the quantity of labour. Moreover, it is feasible that large enterprises could be reorganised as regards the relation between quantities of capital and labour if this was profitable, but peasant farms and small craft capital often may not achieve an optimum position due to their inability to calculate what would be optimal and difficulties in obtaining credit for expansion.⁸⁹ Another criticism made is that this theory assumes that if the quantity of one factor of production is less than its optimum, there must be simultaneously another factor of production available in surplus. Yurovskii implies that this may not always be so.

However, these criticisms of Walras's idea of marginal productivity seem to be that this ideal position is not achieved in practice because of factors which are ignored in the theory. They do not attempt to show that the theoretical optimum outlined by Walras is in fact non-optimal. This is supported by Yurovskii's statement that N.N. Shaposhnikov is 'absolutely correct' to note that the principle of marginal productivity must be recognised as a necessary basis for the distribution of income.⁹⁰ It is clear that Walras would have regarded such criticisms as 'falling to the ground of their own weight', since his system was intended as a theoretical ideal to be attained, not a concrete description of reality.⁹¹ Thus the question of the optimal economic system was touched on by Yurovskii, but he does not examine it in great detail and did not follow it up in later works.⁹²

6.2.2 - EQUILIBRIUM AND PLANNING

Yurovskii wrote a long article in 1926 entitled 'K probleme plana i ravnovesiya v sovetskoi khozyaistvennoi sistema' published in *Vestnik finansov*, in which he examines the question of economic equilibrium in relation to the type of plans and planning methodology being adopted in planning organs such as Gosplan. He begins by stating that:

The methodology of planned economy and the significance of the plan must clearly depend on the particularity of the economic system for which it is composed. An economic plan composed in 1926/7 is something principally different to the type of plan which we had in mind to compose in 1920...⁹³

Despite the fact that all plans have some similar features, Yurovskii notes that this problem is not given sufficient attention in current documents. It is clear from these statements that Yurovskii believed that planning *per se* was not a type of economic system, and that the question of what constitutes planning is at least somewhat divorced from the question of what constitutes an economic system. This means that it would theoretically be possible to have some form of planning in all types of economic system, and that the presence or absence of

planning in an economic system is not necessarily its defining feature. Thus a capitalist system could contain planning, and as an extreme example planning might be absent from a socialist system.

Yurovskii continues by outlining that since in current Soviet conditions a large part of means of production are held by the Soviet state and are used in state enterprises, it is necessary for the state to compose programmes of work for these enterprises. Hence economic plans, such as a production plan, a transport plan etc, are composed. Since also the state has a foreign trade monopoly, an export and import plan is required in order to satisfy the demand for foreign goods. Thus the state budget has to be composed with all these factors in mind, and Yurovskii explains that this 'flows from the fact that the state owns the greater part of the country's productive forces'.⁹⁴

From this it is clear that Yurovskii is arguing that property relations are a key defining feature of an economic system, and determine whether and to what extent and type planning occurs. This is confirmed by a statement that the necessity of planning flows from the unprecedented concentration of means of production and other material resources into the hands of the state. However, Yurovskii continues by noting that not all such plans can and must be composed on the same principles, rather flexibility is required to assist in integration into the economic surroundings.

Yurovskii then moves on to discuss equilibrium. Since the plan for state economy must be a plan for expanded reproduction, the equilibrium involved must be of the moving variety. Citing Bukharin's dictum that 'outside of equilibrium society cannot live long', Yurovskii comments that the term 'long' remains undefined in this context. Equilibrium in relation to the law of formation of market price is disturbed and restored very quickly, whereas equilibrium in relation to the law of costs of production is restored very slowly. Equilibrium disturbed by an economic crisis is restored at an even slower pace. Consequently an economic system can exist if not for a 'long' time, then for a known period in disequilibrium following a disturbance. Yurovskii notes that while in a capitalist economy equilibrium is broken

and restored spontaneously, in the Soviet system equilibrium can be disturbed by a mistaken composition or implementation of a plan, and thus must subsequently be restored by conscious measures.⁹⁵ Thus according to Yurovskii the control figures must fulfil two main functions: to enable expanded reproduction of state economy and to preserve and/or restore dynamic equilibrium in the economic system.

Yurovskii then goes on to examine the Gosplan control figures for 1926/7 from the point of view of the principles involved in their construction. In the matter of finding resources on which new construction can be based, Yurovskii notes that the 1926/7 figures are incomparably more cautious than those of 1925/6, especially in relation to possibilities for state bank emission. He then asks if these figures can secure economic equilibrium, and answers in the negative. Equilibrium is already disrupted, but the control figures are not configured to restore equilibrium, and thus are in error. Although the control figures mention disproportions in various areas, eg between agriculture and industry, they are not devised to repair these disproportions. The control figures speak of the divergence of prices inside the country with world prices as one of the main obstacles for development of foreign commodity turnover, but they do not set out these divergences in figures and do not attempt to resolve them.⁹⁶

Yurovskii outlines various disproportions which he sees in the current Soviet economy. Firstly, there is a disproportion between the speed of restoration of agricultural and industrial production on the one hand, and the speed of restoration of foreign trade on the other. According to Yurovskii foreign trade lags behind production by several decades, and at an absolute level it has reached the levels of the 1880s.⁹⁷ Furthermore the argument that since potentially exportable goods could be sold on internal markets, perhaps even at a greater profit than if exported, they therefore should not be exported, is not correct, as goods are exported not for profit but in order to facilitate the import of foreign goods such as machinery. Yurovskii stresses that countries do not export their absolute surplus, but their relative surplus, ie they export goods which are profitable in

terms of an exchange for foreign currency which in turn can buy foreign goods, and this principle was used for Soviet export plans. Moreover, Yurovskii claims that in countries which lack import/export plans, where trade is conducted for profit through the price mechanism, the principle of exchange of the relative surplus finds its expression in the structure of internal and world prices, ie is realised spontaneously.⁹⁸ The criteria for deciding whether a good can form part of the relative surplus is that its presence in the union should be less necessary than the foreign import.

Yurovskii counters arguments against exports as follows. Firstly, if exports are reduced then the amount of imports will fall also, and this will leave inadequate resources for the development of the Soviet economy. Secondly, if imports are reduced, the demand for such imports will remain unsatisfied. Since imports are bought with dollars and pounds rather than with rubles this lack of supply of imported goods will increase demand for foreign currency, and so disrupt the equilibrium between supply and demand for foreign currency. Yurovskii notes that licensing orders for foreign trade are a very powerful tool for regulating the demand for foreign currency, and consequently the course of exchange rates. He continues by discussing the distribution plan of currency resources adopted by the state. This distribution plan formally restores the equilibrium between supply and demand, in the sense that those who do not receive currency in the plan do not produce demand, and in this plan outlay must be covered by income. However, according to Yurovskii such equilibrium is already disrupted, and if the programme of foreign trade was reviewed in the context of other economic programmes, then new difficulties would be discovered.⁹⁹

Another type of disruption of equilibrium which Yurovskii outlines is a rupture between commodity prices or the purchasing power of the *chervonets* on the one hand, and the parity of the currency on the other. Prices increase without regard for gold parity, and hence according to Yurovskii a whole series of branches of export are non-profitable or insufficiently profitable. He notes that the purchasing power of the *chervonets* was high in the first months after its issue, higher than the

purchasing power of gold in the world economy, but then it began to fall. It never regained its original level.¹⁰⁰

Another disproportion which Yurovskii mentions is that between wholesale and retail prices, and also between state/cooperative prices and prices on private markets. In this latter case Yurovskii notes the existence of a dual price structure (*dvojnogo urovnya tsen*) which is a feature of current Soviet life. Fully unified prices are in general impossible to achieve, but the divergences which became apparent in 1924 grew further in 1925/6 to a level so large that, according to Yurovskii, they should not be included in price indices. The existence of a dual price structure signifies that at the lower price level it would be impossible to satisfy all demand, and the phenomenon of goods shortages became aggravated in 1925/6 in relation to goods such as tissue paper, flax, some types of iron, butter etc. Yurovskii points out clearly that all this means that prices are not fulfilling their function as equilibrators of supply and demand, and thus implies that this function should be reinstated in order to bring back economic equilibrium.¹⁰¹ In this case it is apparent that Yurovskii conceives of a market as a place where supply and demand are balanced through price.

After examining disruptions in economic equilibrium, Yurovskii goes on to examine the nature of the Soviet economic system. In the Soviet system equilibrium is necessary, but what type of equilibrium and in what particular areas? Is equilibrium necessary in price formation, or is such equilibrium an obsolete economic category to be replaced by planned regulation? Is it necessary to balance supply and demand on markets? Experience gives sufficient material for a positive answer to these questions.

Yurovskii then turns to a discussion of Preobrazhenskii's book *Novaya ekonomika*, which he describes as an interesting attempt at theoretical understanding of the Soviet economy. In his concrete description of the new Soviet economy, Yurovskii believes that Preobrazhenskii is absolutely correct in a whole series of cases.¹⁰² However, Yurovskii seems less keen on the theoretical aspects of the work, particularly the idea that the law of value is being replaced in contemporary Soviet economy.

Yurovskii writes that 'the law of value acts *everywhere where there is the market* and commodities'.¹⁰³ Even if, as is the case, there are large organisations of a monopoly type, and even if the state acts to strengthen or weaken certain economic branches. If the market remains under these conditions, then the law of value acts. Concrete price formation conditions can still differ, for example fish prices in small seaside settlements can differ from prices in large consumer centres, but the law of value acts in this case if markets are preserved. Yurovskii stresses that there is no basis to assert that it does not act in monopolistic conditions. Preobrazhenskii's law of primitive socialist accumulation can alter the conditions in which the law of value acts, but it does not abolish the law itself.¹⁰⁴

In *Novaya ekonomika* Preobrazhenskii has a special section on the law of value in monopoly capitalism, in which he asserts that the law of value was being undermined by the development of monopoly in capitalism at the end of the nineteenth century. Furthermore, Preobrazhenskii claims that the fullest manifestation of the law of value is possible only in conditions of fully free commodity turnover inside and outside the country. According to Yurovskii this idea is incorrect. Monopoly trusts do not aspire to abolish the law of value, rather to utilise it as a factor of price formation. Yurovskii is also sceptical as to the nature of the 'law of primitive socialist accumulation'. It is of course possible for the state to accumulate resources for the purposes of socialism using various techniques, eg tax policy, but can this process be called a law? Does this law govern the process of price formation in the sense of a *zakonomernost'*? According to Yurovskii the laws of value and of primitive socialist accumulation do not in fact contradict each other, as for example the law of value and the law of concentration of production in capitalism.¹⁰⁵

Yurovskii goes on to outline how Preobrazhenskii speaks not only of the struggle against the law of value, but also against commodity economy itself, not only of overcoming the logic of price formation under free competition, but also of overcoming all regularities of commodity economy and all markets. Yurovskii notes that the antipode of the law of value can only be the law

of planned distribution of all productive forces and all products, and Preobrazhenskii implies this in his book. Variation in price ceases to be the main regulator of production priorities, rather 'methods of calculating mass demand' replace it. However, Yurovskii disputes that the law of value can be contradicted by the law of primitive socialist accumulation, since this latter law should be contrasted to a law of capitalist accumulation. The question of the logic of accumulation is separate to the contradiction between the law of value and administrative methods and measures. The aim of administrative measures can be to accumulate resources, or it could be (as during the civil war) primary socialist spending of the previous epoch's material resources. Thus the method used to achieve a certain goal should not be confused with the goal itself.¹⁰⁶

Planned regulation of production and distribution implies for Yurovskii the abolition of the law of value and also the abolition of free consumption, ie the rejection of the right of consumers to chose which products to consume. If the structure of demand is decided by planners, then consumers cannot exercise freedom of choice.¹⁰⁷ In such a fully planned system there will act only one regulator, a regulator which currently does not act. Yurovskii stresses that such a regulator is presently not seen because the form of planning which the state now uses aspires to calculate solvent demand (*platezh sposobnyi spros*), ie market demand dependant on value relations. The existing system, according to Yurovskii, should not be understood as of mixed composition, as a mixture of the past and the future, rather it is a system of commodity economy with planned elements. These planned elements do not liquidate commodity economy in any way.¹⁰⁸

For example, the state can compose an ideal plan of grain storage for export and to supply the internal market, but this does not negate the phenomenon of prices. There will still be markets, commodities, and commodity economy, and also planned economy; but not the type of planning which replaces the market. If all grain was collected by a single agency and distributed between consumers according to established principles, then planned economy would oust commodity economy. Thus Yurovskii

notes that he uses the term 'planned economy' (*planovoe khozyaistvo*) in two sense, dependent on the system for producing the plan: in the first sense it means planning alongside the market, in the second sense it means planning that replaces the market. Since Yurovskii believes it is the former type of planning which currently exists in the Soviet Union, he states that:

Our economic system is a system of *commodity-money economy and planned economy*, a planned economy based still on value principles...do not consider that value principles liquidate industrial or other monopolies.¹⁰⁹

A commodity-socialist system obliges the following conditions: equilibrium between supply and demand on markets, and the coordination of prices with costs of production.

Yurovskii notes that the Soviet state can, in its capacity as a monopolist, introduce a policy of increasing prices on products produced by state enterprises, and reduce prices paid by state enterprises, even below cost of production. Thus the Soviet state can alter prices from what they would be under free competition, but this does not mean that the law of value is overcome. Yurovskii outlines the various goals the state could pursue in its control of prices as follows. It could maximise socialist accumulation, set prices so as to achieve maximum quantity of goods, maximise pure profit, obtain average profit, supply consumers with the cheapest goods, or even supply free goods. In setting the question as he does Yurovskii implies that such aims may be contradictory, ie it would not be possible to simultaneously maximise profits and to provide the best quality goods. However, which ever of the above goals the state decided to pursue, according to Yurovskii this would not mean that the law of value was being negated. Thus all the above cases follow not a generalisation which relates to price formation in conditions of free competition, but another regularity of commodity economy: that costs of production, which are the essence of prices, are one way or another covered. Moreover, whether an aspiring monopolist means to maximise price or whether the state is content with low prices, in all cases the degree of

demand must be considered in order for assigned prices on markets to establish equilibrium.¹¹⁰

Equilibrium conditions for the state are connected to a maximum selling price, since it cannot establish a price with which ten percent of goods remain unsold. There is also a minimum price beyond which demand would exceed supply. Yurovskii stresses that the proletarian state monopoly sets itself an absolutely different task to that which all other monopolists set, although he does not outline the specifics of this task. He does note that while the mechanisms of price formation in the case of free competition differs from the mechanism for monopoly, this does not mean that no regularities govern monopoly price formation. For example on markets where the state is a monopsonist, lower or higher prices can be set. But lower prices signal for reduced sowing, and higher prices for increased sowing, thus the price to be set is governed by criteria apart from pure profit. In the case of the grain market where the state dominates but is not yet a monopolist, in the matter of reducing prices the state is limited by the presence of private dealers who would re-sell grain to consumers at a profit after buying it from the state.¹¹¹

Regulation of the national economy (so called state intervention) which limits free competition thus does not oust commodity economy, but only replaces one type by another. If a capitalist state carries out a policy of stimulating a particular industrial branch by encouraging private capital into it, then in this case the law of value is not overcome. The capitalist system remains a commodity economy even though the state intervenes in economic life and negates free competition. Similarly in the Soviet case. Even though such regulation is incomparably greater in the USSR, and this leads to a qualitative change in the nature of the system, this does not mean that the law of value no longer acts. Yurovskii agrees that a current particular aim of the Soviet state may be socialist accumulation. However, through what means is this policy pursued? According to Yurovskii it is achieved through an economic plan to enforce higher prices on state industrial products, higher taxation of commodity turnover etc, ie through markets and prices, in order that the state will increase its quantity of goods on the market. For Yurovskii this

implies the violation of free competition, but not the ousting of the law of value.¹¹² Yurovskii thus concludes that Preobrazhenskii is incorrect to speak of a 'struggle with commodity economy' or of a struggle between the planning principle and the law of value. In fact the planning principle enters into commodity economy.

However, Yurovskii stresses that there is a difference between regulation in capitalism and in Soviet conditions. A capitalist state can only use indirect means to achieve a goal, eg the use of export premiums to guide exports, whereas the Soviet state can use more direct methods, eg the export-import plan. In this case regulation occurs not by the stimuli of capitalism (profit), but by the direct supply coordination of the state. In this respect the Soviet economy is essentially different from a commodity economy. Yurovskii contrasts the capitalist method for protection of machine construction - customs duties, subsidies, encouraging an influx of new capital - with the current method; including the construction of new equipment factories in the plan for capital construction. However, while this direct planning occurs in relation to construction, Yurovskii notes that when the plant begins functioning it will be judged by profit criteria.¹¹³ The law of value is still obligatory in this case because a plan for factory production in which the value of produced goods was lower than prime costs would be a mistaken plan.

If the state pursues a goal of redistributing means of production or means of consumption, then such a redistribution can be economically profitable or non-profitable. According to Yurovskii the state must use values to determine this question. Even if the state decides to undertake measures which are according to short-term criteria unprofitable, it has conducted the calculation in terms of prices, and thus commodity economy remains.¹¹⁴ Noting that Preobrazhenskii outlines various cases of price formation in conditions of Soviet economy, Yurovskii stresses that such planned calculation stands on prices which already exist and which the state can influence. Thus it stands on commodity economy. Even in the case when the state is a monopoly producer and buyer, it is incorrect to say that the

price category has a purely formal character. In this case the state establishes prices in relation to costs of production, ie on quantities connected with the market conjuncture for all goods.¹¹⁵ Thus Yurovskii stresses the importance of markets and prices to economic calculation in the Soviet context.

In the next section of this article Yurovskii discusses the tasks of planning in the current economic system. The general task is to encourage the growth of productive forces while maintaining equilibrium in the various parts of the economic system. In a commodity-money economy this equilibrium must be market equilibrium. Observance of dynamic equilibrium means the creation of a smooth curve of economic growth, and not a curve which indicates periods of fast increases followed by crisis and depression. Thus Yurovskii implies that at least some types of cyclical fluctuations must be overcome. He then outlines his theory as to the causes of economic crises. At the basis of all economic crises lie disproportions. There are two basic types of disproportions which cause crisis in capitalist economy. In the first type there is a lack of coordination in the degree of production of consumer goods with solvent demand for them. In the second type there is a lack of coordination between accumulation of material resources or the speed of new capital formation with the speed of development of the economy, ie the speed of growth of capital outlay. Yurovskii does not exclude the possibility that these two disproportions have a common root, but decides not to investigate this question in this article.¹¹⁶

Yurovskii states that he does not think that currently in the USSR it is possible to predict sooner or more accurately the possibility of the approach of a goods crisis as compared to a capitalist system. However, once the possibility of a threat to smooth reproduction had been established the state in a commodity-socialist system could more easily suspend growth of production or reduce it than a state in a capitalist system. Moreover, in a capitalist economy crisis tends to spread spontaneously through the economy, and localising the damage becomes impossible. In the Soviet system the state can and must limit damage and prevent spreading, and it absorbs the loss by

distributing it throughout the entire economy, something which a capitalist enterprise cannot do.¹¹⁷

Yurovskii continues by discussing the consequences of disproportions and two views on the nature of economic plans. Planning measures under state regulation can have as their consequence the disruption of equilibrium if calculations are incorrect. The disruption of equilibrium between the rate and the purchasing power of the *chervonets* is not, according to Yurovskii, caused accidentally, rather it is the result of planning measures which aim to maximise use of the credit system for increasing economic construction, but which fail to consider the effects this may have on prices and equilibrium in the export field. Moreover, this disrupted equilibrium has a tendency towards self-growth. Insufficient exports limit currency receipt and this leads to limiting imports of ready-made goods for the internal market. This in turn leads to increases in prices for such goods, and further restricts exports. The absence of equilibrium between supply and demand on goods markets gives rise to many inconveniences which are all well known. Yurovskii supports the policy of reducing grain procurement prices, but stresses that this must be accompanied by a reduction in the grain selling price, ie the market price, to prevent further disproportions emerging.¹¹⁸

Yurovskii further notes that unsatisfied demand for goods leads to consumer willingness to pay prices higher than the fixed state price, and consequently to private traders taking advantage of this fact. A considerable quantity of goods 'leak' from the state sector onto private markets, thus creating two markets and two price levels. If price differentials between the two markets are small, then major problems will not arise. But if there are large differentials, then 'arbitration' between the two levels becomes a job for a certain type of person. There are also two levels of interest rate on loan capital, the rate of Gosbank and the Joint-stock banks on the one hand, and the rate on the private money market on the other. This means that it is possible to make profit from the difference in the rate on different markets, and this stems from the absence of equilibrium in the commodity-money system. From the point of view of state economy

this means that it must limit its advantageously priced loans to the state sector.¹¹⁹ Generally Yurovskii believes that rate differentials impair the distribution of credit and undermine trust in the stability of the monetary system.

Yurovskii notes that it is very tempting to try to restore equilibrium through non-market means, ie through 'planned distribution' or rationing. He argues that in fact it would be better to have goods shortages on the market rather than state imposed rationing. He gives the example of the evolution of regulation in the grain market. The attempt to impose limits on prices and a tax on retail trade will inevitably lead, given the absence of equilibrium on grain markets, to a monopoly of grain distribution through rationing. Legal prices lag further and further behind actual prices, thus depriving legal prices of all significance, and finally the step to free grain distribution is taken. Yurovskii believes that there is an internal logic to this process. Thus the state grain monopoly can lead to the regulation of markets in line with equilibrium or can remove and liquidate markets altogether.¹²⁰

Yurovskii explains that the bifurcation of goods and money markets which he speaks of can be considered as the result of a struggle of the planning principle with the spontaneous principle in the Soviet economy. The planning principle constructs a system emancipated from the law of value, and with such a principle disproportions need not raise concern, since they are contradictions through which the economy must travel in order to reach a moneyless and marketless system. However, Yurovskii disagrees with this point of view, rather he supports the idea that disproportions are essentially a painful sign of sickness which require treatment. The task is to overcome the dual price structure and establish equilibrium on markets so that prices can fulfil their function of balancing supply and demand.¹²¹ This would stop speculative trade on state products and destroy one source of accumulation for private trading capital.

The question then arises of at what price level and currency rate equilibrium is to be found. Yurovskii answers that it should be found at the price level which the state currently wishes to have in its sector of the economy, and consequently this means

reducing prices. A policy of increasing prices would be incorrect because the state would have to compensate workers by increasing wages, and this would strengthen the division between the rate and the purchasing power of the currency. Disproportions must be overcome by moving to a price level which coordinates *chervonets* parity, ie a reduced level.¹²² However, Yurovskii stresses that such a goal can only be accomplished through a whole series of measures which act on the composition of supply and demand and on credit policy. Imposed price reductions decreed by force with the absence of goods to saturate markets simply widens disproportions and thus has no relation to the resolution of these problems.¹²³ Currency emission plays a significant role in the disruption of equilibrium, and thus credit and money policy must have a decisive role to play in the restoration of equilibrium. Yurovskii implies that he favours strict controls on currency emission.

This article shows that Yurovskii was concerned to ensure that equilibrium was restored in the Soviet economy by such means as reducing prices and strict control over currency and credit. It also shows that he believed that the major role of prices was to balance supply and demand on markets, ie he had a purely classical understanding of prices and markets in this respect. As regards the socialist element in the Soviet economy he saw state regulation as this element, although he stressed that this did not mean that the law of value had been overcome. However, since he agreed that the Soviet economy in the 1920s was in a transitional phase of development, it is clear that this transition had to lead somewhere, but Yurovskii does not outline how he sees the future development of the economy after the transitional phase was over. Whether a full socialist society would contain markets and prices is uncertain. Since it is apparent that Yurovskii believed that the price mechanism was an extremely useful economic tool, perhaps it would. However, what is clear is that Yurovskii opposed administrative dictate at this time.

6.2.3 - CURRENCY REFORM

Yurovskii was closely involved in the monetary reform of 1924, and he analysed his experience of this reform in a book entitled *Denezhnaya politika sovetskoi vlasti*. He also published a book in English on this topic called *Currency Problems and Policy of the Soviet Union* in 1925. In this work Yurovskii states that the change from War Communism to NEP implied that the peasant held the right of private property over the product of his labour, along with the right to bring this product on to the market.¹²⁴ Furthermore, enterprises were put on a commercial basis - the state declined to guarantee enterprises the means necessary for their operation and excluded them from the state budget, although profits still had to be handed over to the state.¹²⁵ On 3 November 1921 the Council of People's Commissars officially devalued the ruble so that one ruble of the new issue was worth 10,000 rubles of the old notes.

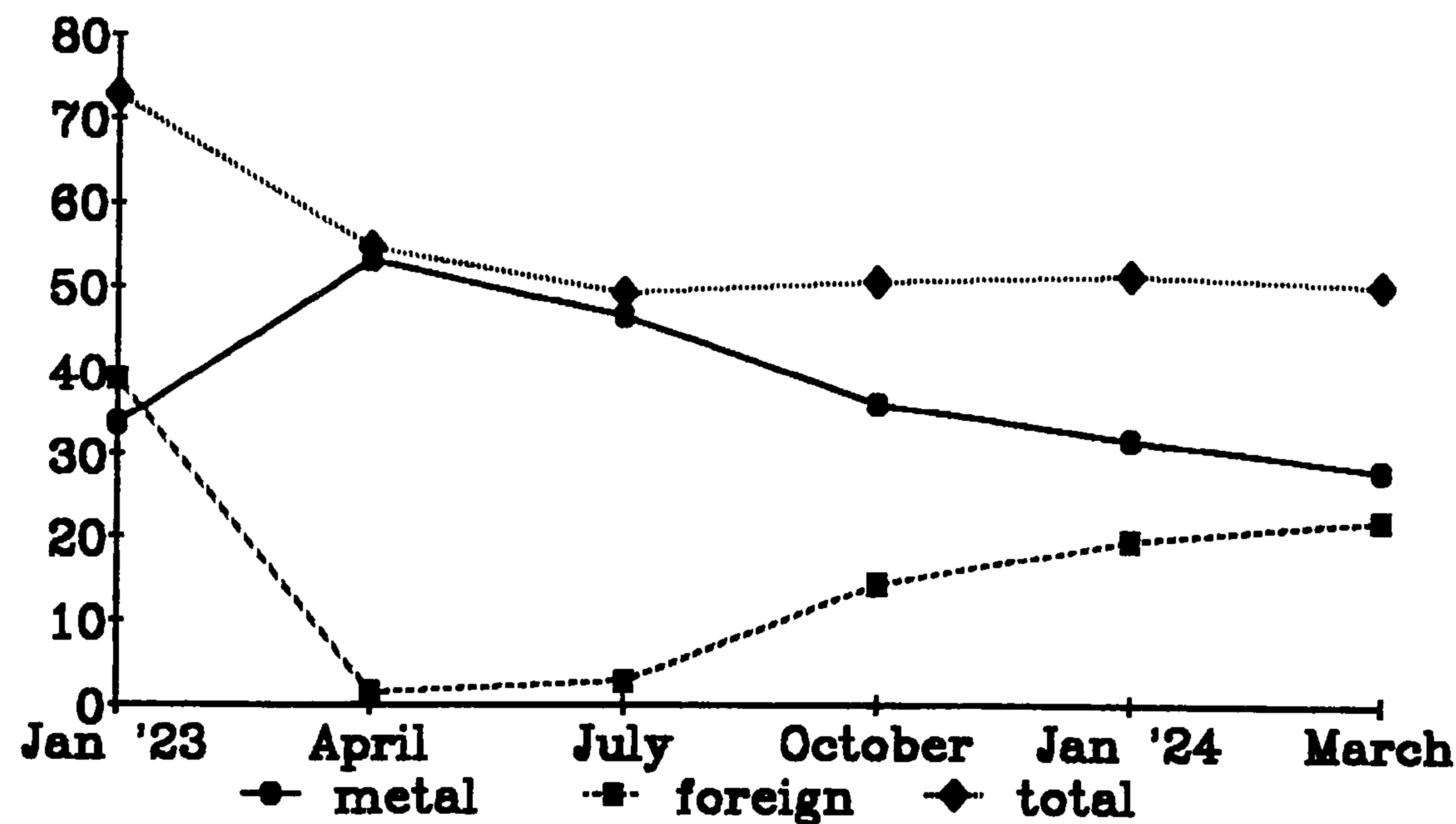
Yurovskii's explanation of the effects of currency emission rate changes during this period is interesting. He notes that there was a steady increase in the total volume of money in circulation in the eighteen months prior to the introduction of NEP, but that from the beginning of NEP there was a sudden rapid rise to an eighteen times increase in the first half of 1922. This monetary issue caused an increase in the general price level, but not as great an increase as that which occurred during War Communism. In 1920/1 there was a five times increase in the quantity of money in circulation and a ten times increase in the price level, whereas in 1921/2 there was a hundred and thirty six times increase in the quantity of money and only a seventy two times increase in prices. Yurovskii's explanation for this is that prior to 1921 new issue came upon a shrinking market, whereas after 1921 markets were expanding. Thus he is using the quantity theory to explain this phenomenon.¹²⁶

In relation to the need for stable valuta, Yurovskii relates how the Council of People's Commissars first stipulated that the budget be fixed in pre-war rubles. In order to determine the current price of any article expressed in pre-war rubles, the current price was divided by the official exchange rate

established by Narkomfin, which began at 60,000 in November 1921 and reached 200,000 in March 1922. The use of pre-war rubles was widespread by the beginning of 1922, but in March of that year they were officially discontinued, and there was thus an urgent need for a new measure of value.¹²⁷ Yurovskii relates how at this time there was debates between those who favoured a goods ruble and those who favoured a gold ruble. Those who favoured the gold ruble, including Yurovskii, argued that it was essential for the new currency to be linked to world markets, and that the only way of achieving this was to back the currency with gold.¹²⁸ Once the *chervonets* came into existence no definite rate was set between it and the ordinary ruble, but the gold currency was made equal to one zolotnik seventy eight dolyas of pure gold, ie the ten ruble gold coin of pre-war mintage. The law provided for one quarter actual gold cover, and the rest was covered by short-term bills of exchange.¹²⁹

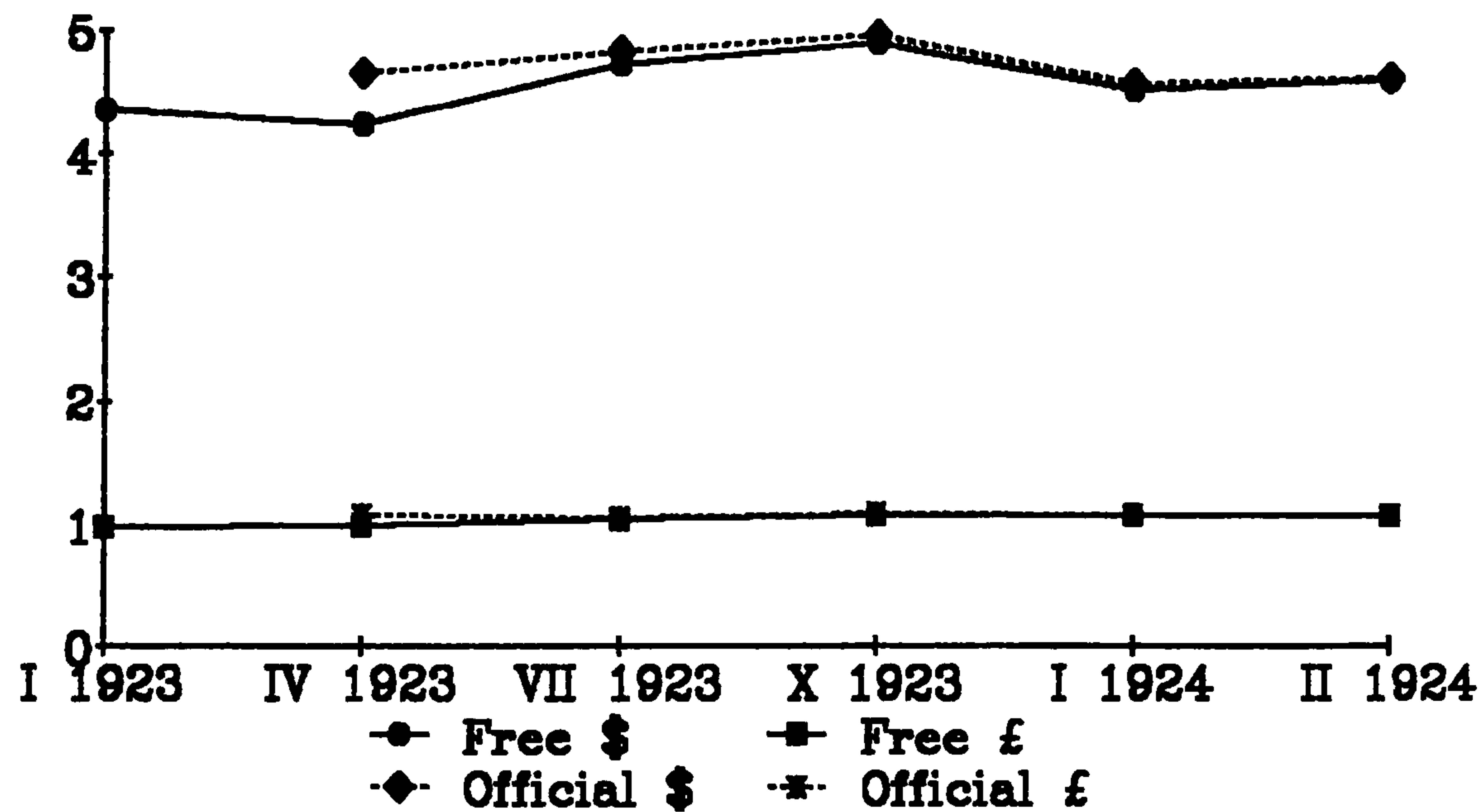
Yurovskii relates how the question of authorising the State Bank to issue notes was raised soon after its creation in 1921. In May 1922 it was resolved that it should become the bank of issue, and the new notes were to be issued in a new denomination called *chervonets*. The actual issue of *chervonets* began in November 1922, and by January 1923 there were only 356,000 in circulation. Yurovskii presents the following data on *chervonets* cover between January 1923 and March 1924:¹³⁰

CHERVONETS COVER IN PERCENT Precious metals and foreign notes



He also presents the following data on the exchange rate of the *chervonets* in relation to the pound and the dollar between January 1923 and February 1924:¹³¹

CHERVONETS EXCHANGE RATE \$ & £ official and free



Yurovskii relates that although the *chervonets* was linked to gold, since the gold market in the USSR was very restricted the price of gold did not have major consequences for the Soviet economy, and thus it was not enough to define officially the gold value of the new currency. Thus the State Bank set itself the task of creating and maintaining conditions in which one *chervonets* could purchase a pound sterling, and for 1923 the average exchange rate was 1.01 *chervonets* to the pound.¹³² In order to maintain this rate the State Bank accumulated foreign currency and intervened on the foreign exchange market. Such intervention took the following form.

Suppose that the State Bank desired a rate of 181 rubles to the *chervonets* on the grounds that the value of the pound on the open market was 187 rubles. The Bank could guide the value of the pound to 1.033 *chervonets* by offering sterling at that price, or by purchasing *chervonets* in the open market at the rate of 181 rubles. Thus in its attempt to maintain intervaluta parity the State Bank made use of foreign currency and Soviet money tokens, although the money tokens were discarded in 1924.¹³³

Yurovskii outlines the various stages of the 1924 monetary reform as follows. The first stage was a decree of 5 February 1924 on the issue of new Treasury notes. This decree did not explicitly associate these with Soviet notes or *chervonets*, and the new notes were issued in denominations of five, three, and one gold rubles. However, the value of this gold ruble soon became identical to the value of the *chervonets*. The second stage was a decree of 14 February 1924 on discontinuing the printing of Soviet money tokens. The third stage was a decree of 22 February 1924 on the minting of silver and copper coins, and the fourth stage was a decree of 7 March 1924 which fixed the rate of redemption of Soviet money tokens.¹³⁴ Thus the order of replacement of a fastly depreciating currency with a new more stable one was as follows. Firstly the new currency was issued in small amounts and was backed by gold and foreign currency, and the State Bank intervened to maintain an exchange rate of one to one with sterling. Secondly over a year later a decree withdrawing all the old depreciating currency was enacted. Thus for some time the new money existed alongside the old.

In *Denezhnaya politika sovetskoi vlasti* Yurovskii relates how parallel with the monetary reform other measures were adopted, for example measures to reduce prices. A decree of STO on 22 February 1924 gave Narkomvnutorg the right to regulate prices 'on all commodities circulating on internal markets of the USSR' and in particular to establish 'price limits for wholesale, wholesale-retail, and retail sales and purchases, and to allow no deviations from these limits'.¹³⁵ Further declarations followed concerning price reductions on state and cooperative goods, and Yurovskii notes that this February 1924 campaign was the second large campaign for price regulation during NEP, the first being in the autumn of 1923. Yurovskii then goes on to discuss the principles and practical significance of price regulation itself.

The Soviet state is the manager of a majority of enterprises in transport, industry, foreign trade etc, and the fact that the manager of an enterprise establishes the prices of the goods sold in that enterprise is natural. Part of what is seen as price regulation is therefore unavoidable given state ownership, and it would be incorrect to suppose that prices established in this way are necessarily different to those which would have been created on markets if ownership had been private. However, the Soviet state as a monopolist can establish equilibrium between supply and demand on various levels. It can set prices within the limits of unprofitable production and unsatisfied demand, ie in relation to market conditions, or it can ignore market conditions altogether and disrupt equilibrium by fixing a price from other criteria. Yurovskii states that these two types of regulation underlie two absolutely different systems, as the first is normal in a particular type of commodity-economy, while the second leads to the elimination of commodity-economy as seen between 1917 and 1920.¹³⁶ These are the theoretical outlines. Practically various views of price regulation can intertwine, and Yurovskii notes that the Autumn 1923 price regulation occurred in general according to the first type outlined above, ie to create prices which responded to market conditions.

Yurovskii then illustrates what effects changes in supply and demand have on free and regulated markets. On free markets a faster growth in demand over supply results in price increases.

On markets where all prices are fixed, increased demand is expressed not in increased prices, but in goods shortages. Currently many Soviet prices are partially regulated, and thus increased demand leads partially to price increases and partially to goods shortages.¹³⁷ Thus it is clear that for Yurovskii free markets were somewhat regulated in the USSR at this time, but that this regulation was not totally anti-market in nature.

6.3 - CONCLUSION

It is apparent from the above presentation of the views of Sokol'nikov and Yurovskii that they both had a classical understanding of the market and associated notions (eg the quantity theory of money and the purchasing power parity theory of exchange rates), and that this was somewhat divorced from the conventional Bolshevik view. They criticised the attempt to use administrative force to control the market, rather they suggested that financial policy should be conducted in harmony with the market. In the transitional commodity-socialist system market levers such as taxes, credit etc should be used to influence production, instead of imperative economic plans.

However, they also seemed to be favourably disposed to socialism, and agreed that in the 1920s the USSR was in a transitional stage towards a more fully developed socialism. This can be seen to be contradictory, since if the market was such a useful mechanism for organising production, why replace it some time in the future? This fundamental ambiguity pervades much of the financial literature of the time, and no doubt was present in Narkomfin itself. In a sense by agreeing that the current use of the market in Soviet society was only transitional, those at Narkomfin prepared the way for their own abolition.

Yurovskii's study of price theory shows that he was well versed in the development of the marginal utility approach. However, although Yurovskii analyses the neo-classical approach of Marshall and Walras, he is also greatly concerned with problems elaborated by classical economists such as Smith, Ricardo, etc. For instance, although he does discuss marginal utility, more space is devoted to specifying various types of

price such as average market price, natural price, dynamic equilibrium price etc. This latter approach comes from classical, not neo-classical theory. It is thus clear that while in Europe and the USA by the 1920s neo-classical economic theory had triumphed over classical, in Russia the framework of classical theory still held great sway at this time.

NOTES

- 1 Sokol'nikov, *Denezhnaya reforma* (Moscow, 1925), p.62.
- 2 Ibid, p.63.
- 3 Ibid, p.128/9.
- 4 Sokol'nikov, *Finansovaya politika revolyutsii* (Moscow: NKF, 1926), vol.2, p.167.
- 5 Ibid, p.176.
- 6 Ibid, p.177.
- 7 Grain loans were actually issued in 1923. This section was written by Sokol'nikov in February 1923. The following table lists the bonds which were issued by the Soviet state up until 1927:

TABLE OF STATE LOANS 1922 -1926

NAME OF LOAN	DATE OF ISSUE	NOMINAL VALUE
1) First internal short-term state grain loan	20 May 1922	10 million poods of rye
2) State lottery loan	31 October 1922	100 million gold rubles
3) Payment bond NKF	7 February 1923	-
4) Second internal short-term grain loan	22 March 1923	100 million poods of rye
5) Transport certificates	26 July 1923	24 million gold rubles
6) Short-term sugar loan	15 November 1923	1 million poods of sugar
7) State 8% internal loan	15 February 1924	100 million rubles
8) First peasant lottery loan	19 March 1924	50 million rubles
9) Second state lottery loan	16 April 1924	100 million rubles
10) Short-term 5% internal loan	23 February 1925	10 million rubles
11) Peasant lottery loan second issue	15 April 1925	100 million rubles
12) Internal loan for economic reconstruction	14 August 1925	300 million rubles
13) Second peasant lottery	2 October 1925	100 million rubles
14) Second state 8% internal loan	4 June 1926	100 million rubles
15) State lottery loan	3 September 1926	30 million rubles

Source: *Finansovaya entsiklopediya* (Moscow-Leningrad, 1927), ed. Sokol'nikov et al, p.399/400.

- 8 Sokol'nikov, *Finansovaya politika revolyutsii*, vol.2, p.178.
- 9 Ibid, p.277.
- 10 Ibid, p.278.
- 11 Ibid, p.279.
- 12 Sokol'nikov, *Finansovaya nauka* (Moscow, 1930), issue 1 no.2, p.5.
- 13 Ibid, p.6/7.

- 14 Ibid, p.10.
15 Ibid, p.11.
16 Ibid, p.15.
17 Ibid, p.16.
18 Ibid, p.17.
19 Ibid, p.18.
20 Ibid, p.26.
21 Ibid, p.34.
22 Ibid, p.35/6.
23 Ibid, p.38.
24 Ibid, p.42.
25 Sokol'nikov, *Finansovaya nauka* (Moscow, 1930), issue 1 no.3, p.1.
26 Ibid, p.2.
27 Ibid, p.3.
28 Ibid, p.4.
29 Ibid, p.5.
30 Ibid, p.8.
31 Ibid, p.9.
32 Ibid, p.10.
33 Ibid, p.17.
34 Ibid, p.21/2.
35 Ibid, p.23/4.
36 Ibid, p.35.
37 Ibid, p.37.
38 Ibid, p.41.
39 Ibid, p.44.
40 Ibid, p.45.
41 Ibid, p.47/8.
42 Ibid, p.52.
43 Ibid, p.105/6.
44 Ibid, p.107.
45 Ibid, p.108.
46 Sokol'nikov, *Finansovaya nauka*, issue 1 no.2, p.124/5.
47 Ibid, p.130.
48 Sokol'nikov, *Finansovaya nauka*, issue 1 no.3, p.109.
49 Ibid, p.115/6.
50 Ibid, p.122.
51 Yurovskii, *Ocherki po teorii tseny* (Saratov, 1919), p.48/9.
52 This relates to the question of ordinal vs cardinal utility in the development of marginal utility doctrine.
53 Ibid, p.81.
54 Ibid, p.82.
55 Ibid, p.84/5.
56 This problem was recognised by neo-classical theory as it developed.
57 Ibid, p.87-89.
58 Walras, *Elements of Pure Economics* (Orion, 1984), p.181.
59 Ibid, p.172 & 180.
60 Yurovskii, *Ocherki po teorii tseny*, p.117.
61 Ibid, p.133.
62 Ibid, p.134.
63 Ibid, p.135/6.
64 Ibid, p.136/7.
65 Ibid, p.138.
66 Ibid, p.139.
67 Ibid, p.141. This ignores a well-known problem with Walras's conception of *tatonnement*. According to the Walrasian

- framework, if one non-equilibrium price is actually taken, this upsets all subsequent equilibrium prices. Since this is actually unavoidable the system may fail as an accurate account of reality.
- 68 Ibid, p.143/4.
- 69 Ibid, p.145.
- 70 Ibid, p.146.
- 71 Marshall, *Principles of Economics* (MacMillan, 1938), p.335.
- 72 Yurovskii, *Ocherki po teorii tseny*, p.147.
- 73 Ibid, p.151.
- 74 Ibid, p.154/5.
- 75 Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, (Oxford, 1976), p.72.
- 76 According to Marx in volume I of *Theories of Surplus-Value* (Lawrence & Wishart, 1964) Smith understood by natural price the value of a good expressed in money. The market price can be above or below the natural price, and the average price is always different from the value (p.93).
- 77 Ricardo, *Principles of Political Economy and Taxation* (Penguin, 1971), p.111.
- 78 Ibid, p.114.
- 79 Marshall, *Principles of Economics*, p.348/9.
- 80 Ibid, p.372.
- 81 Blaug, *Economic Theory in Retrospect* (Cambridge, 1985), p.39.
- 82 This shift of emphasis from cost of production to supply and demand can be seen by comparing Ricardo and Walras. Ricardo clearly states in his *Principles* that 'it is the cost of production which must ultimately regulate the price of commodities, and not the proportion between supply and demand' (p.374). However, in the *Elements* Walras equally clearly states that the price of products are determined by the law of offer and demand, while only the price of productive services are determined by the law of cost of production (p.211). Moreover, there is a whole lesson (no.38) in the *Elements* devoted to refuting the English theory of the price of products, in which Walras demonstrates that there is no absolute antithesis between the case of goods which cannot now be produced (eg rare pictures and scarce wines), and common goods which can be manufactured almost without limit (p.402). It follows from this fact, according to Walras, that scarcity influences price in all cases, and thus that Ricardo and J.S. Mill were wrong to argue that the selling price of the second type of good outlined above was determined by cost of production.
- 83 Yurovskii, *Ocherki po teorii tseny*, p.157.
- 84 Walras, *Elements of Pure Economics*, p.385.
- 85 Ibid, p.383-385.
- 86 Ibid, p.495.
- 87 Ibid, p.256.
- 88 Yurovskii, *Ocherki po teorii tseny*, p.195/6.
- 89 Ibid, p.198.
- 90 Ibid, p.197.
- 91 Walras, *Elements of Pure Economics*, p.256.
- 92 It is worth noting that Yurovskii states the notion as regards the historical development of marginal economics that 'contemporary theoretical economics is genetically connected with the classical school of Thunen and Cournot' (p.120 *Ocherki*). Blaug agrees with this idea in *Economic Theory in*

- Retropsect.* According to Blaug, in Thunen's *The Isolated State* of 1826 the author relentlessly applied the principle that all forms of expenditure should be carried to the point at which the product of the last unit equals its cost, ie the total social product is maximised only when resources are allocated equimarginally (p.322). Cournot came to a similar conclusion working from monopoly in his *Researches into the Mathematical Principles of the Theory of Wealth* of 1838, that the monopolist maximises gains if marginal cost equals marginal revenue (p.317). Since both Thunen and Cournot are mentioned often in *Ocherki po teorii tseny* it is clear that Yurovskii was familiar with these formulations. It is worth noting that Yurovskii makes the connection between Ricardo's method of determining differential rent in the *Principles* with the neo-classical idea of marginal quantities (p.106 *Ocherki*). Marx had discussed Ricardo and differential rent in volume III of *Capital*, but he had not attempted to widen the application of the marginal principle or to criticise Ricardo's use of it. Clearly Marx failed to see the importance of it for economics as a whole.
- 93 Yurovskii, 'K probleme plana i ravnovesiya v sovetskoi khozyaistvennoi sistema', in *Finansovoe ozdorovlenie ekonomiki: opyt NEPa* (Moscow, 1990), p.178.
- 94 Ibid, p.179.
- 95 Ibid, p.184/5.
- 96 Ibid, p.187.
- 97 Ibid, p.188.
- 98 Ibid, p.190. Yurovskii's idea that countries export only their relative surplus may originate from Ricardo's notion of comparative advantage.
- 99 Ibid, p.197.
- 100 Ibid, p.199.
- 101 Ibid, p.201/2.
- 102 Ibid, p.206.
- 103 Ibid, p.207. In this article Yurovskii frequently places the 'law of value' into quotation marks. This may signify that he is sceptical as to its real meaning, but he does not elaborate why he adopts this procedure.
- 104 Ibid, p.208.
- 105 Ibid, p.209/10.
- 106 Ibid, p.211/12.
- 107 Thus Yurovskii, along with most if not all economists of the 1920s, does not consider the notion of democratic planning, which according to theory would allow consumers freedom of choice through the planning process.
- 108 Ibid, p.214.
- 109 Ibid, p.215.
- 110 Ibid, p.217.
- 111 Ibid, p.218.
- 112 Ibid, p.221. It may be noted that Yurovskii's argument implies that the law of value does not give one particular set of economic variables in a given situation, but can be seen more as the means by which a set of goals are achieved. Unfortunately he does not spell out a definition, so it has to be gleaned from indirect references.
- 113 Ibid, p.223.
- 114 The question may be asked why planning is required if free markets would achieve the same goal. For Yurovskii's argument

- to make sense free markets would have to have produced a different outcome to planning, but if this is the case then the same criteria (profit) cannot be used in both cases, otherwise identical results would be obtained.
- 115 Ibid, p.225.
- 116 Ibid, p.227.
- 117 Ibid, p.228/9.
- 118 Ibid, p.237/8.
- 119 Ibid, p.240. In theory the differential interest rate could also be accounted for by risk differential, and Yurovskii does mention this in passing.
- 120 Ibid, p.243.
- 121 Ibid, p.246.
- 122 It seems here that Yurovskii is using the purchasing power parity theory of the determination of exchange rates in relation to the *chervonets*. He is arguing for purchasing power parity to be maintained between Soviet currency and world currency according to the equation $F = P'/P$, and this implies a classical understanding of the relation between foreign exchange rates. I examine Soviet conceptions of the exchange rate in more detail in 'Exchange Rate Policy and the Purchasing Power of the *chervonets* in the USSR during NEP', *Coexistence*, vol.30 no.1, March 1993, (forthcoming).
- 123 Yurovskii, 'K probleme plana i ravnovesiya v sovetskoi khozyaistvennoi sistema', p.248/9.
- 124 Yurovskii, *Currency Problems and Policy of the Soviet Union* (Parsons, 1925), p.37.
- 125 Ibid, p.40/1.
- 126 Ibid, p.62.
- 127 Ibid, p.71/2.
- 128 Ibid, p.79.
- 129 Ibid, p.87/8.
- 130 Ibid, p.93.
- 131 Ibid, p.96.
- 132 Ibid, p.102.
- 133 Ibid, p.103.
- 134 Ibid, p.128-133.
- 135 Yurovskii, *Denezhnaya politika sovetskoi vlasti* (Moscow, 1928), p.327.
- 136 Ibid, p.329.
- 137 Ibid, p.355.

7.1 - INTRODUCTION

Alexander Vasil'evich Chayanov (1888-1939) studied at the Moscow Agricultural Institute, and his teachers included D.N. Pryanishnikov and A.F. Fortunatov. In April 1917 he was one of the founders of the League for Agrarian Reform, and became a 'non-party socialist' member of the Main Land Committee which supervised land reform. He was also appointed as assistant to the Minister for Agriculture in the last Provisional Government. During the 1920s he cooperated critically with the Bolshevik party and outlined his own type of 'cooperative collectivisation' which would allow elements of planning to be introduced into peasant economy. Between 1922 and 1930 he served as Director of the Institute of Agricultural Economics of the Timiryazev Academy. He was arrested in 1930 and died in a prison camp. Chayanov was chosen because since market elements were strongest in the peasant sector of the NEP economy, analysing a theorist concerned primarily with the peasantry should be valuable from the point of view of understanding conceptions of the market.

7.2 - ECONOMIC SYSTEMS

A good place to begin analysing Chayanov's theory is an article entitled 'On the Theory of Non-Capitalist Economic Systems' of 1924. In this work Chayanov claims that the key to understanding economic life in capitalism is the following formula:

$$GI - (ME + WC) \geq C \cdot a/100$$

where GI = gross income, ME = material expenditure, WC = wage costs, C = constant and circulating capital, and a = the interest rate.¹ By this equation an enterprise is considered profitable when its gross income, minus material expenditure and wage costs, is equal to or greater than the amount of interest the capital could have yielded during the particular period in question. This drive for profit is, according to Chayanov, the essential feature

of capitalist production, and it clearly requires a way of numerically comparing different economic decisions. This universal quantifier is the market, which allows national and international comparison of profit yields.

Chayanov argues that the economic theory of modern capitalist society is a complex system of economic categories - price, capital, wages, interest, rent - inseparably interconnected and mutually determining. In the absence of any one of these categories, all the others lose their specific character. With this argument Chayanov is able to limit the essential feature of capitalism (the drive for profit) to only those economic systems where all such categories exist.

In relation to peasant farms, Chayanov argues that one of these categories (wages) is missing, and the absence of a labour market leads to the principles on which peasant farms are managed being different to those on which a capitalist enterprise would be run. Peasant farms are overwhelmingly family labour farms, and thus hired labour was a rarity. However, if the labour market was absent, then other markets still functioned in this context, for example the land market, commodity markets etc, and thus while Chayanov was eliminating a specifically capitalist structure from family labour farms, he was not excluding markets from playing an important role. This clearly reveals that, according to Chayanov, markets functioned separately from capitalism and had existed prior to it. If capitalism is taken to mean a system in which the overriding principle is the calculation of the highest possible profit in a given market situation, which is how Chayanov sees it, then it is logically possible to substitute another principle for 'maximise profit' whilst still functioning with markets.² Thus for Chayanov markets are separate from capitalism.

The question then arises: what principle(s) are the family farm based on? Chayanov answers that the degree of labour performed is determined by an equilibrium between family demand satisfaction and the drudgery (*tyagostnost'*) of labour itself.³ Since the drudgery of labour is a subjective category, Chayanov is utilising a non-Marxist approach. To illustrate the different principles which capitalism and the family labour farm are based upon, Chayanov writes:

...a capitalist business can only increase its intensity above the limit of its optimum capacity if the changed market situation itself pushes the optimum in the direction of greater intensity. In the family labour unit, intensification can also take place without this change in the market situation, simply from pressure of the unit's internal forces, mostly as a consequence of family size...⁴

Chayanov does not relate this theory to questions of optimality in this context, rather he is only concerned to show the differing principles at work. In relation to the market as determining production priorities, Chayanov writes that in relation to the family labour farm:

...the objective arithmetic calculation of highest possible net profit in the given market situation does not determine whether or not to accept any economic action, nor does it determine the whole activity of the family economic unit; this is done by the internal economic confrontation of subjective evaluations.⁵

The farm attempts to maximise its 'standard of well-being', which may or may not coincide with a capitalist's attempt to maximise profit. Instead of the category 'net profit', which is what remains after capitalists have completed their accounts, the family labour farm has a 'labour product' which cannot be disaggregated into constituents. This family labour product is the only possible category of income for a peasant family labour farm.

In relation to price determination Chayanov gives the following interesting example. What determines the land price on peasant farms? Farms which already have an amount of land which allows them to utilise the whole family's labour power need not lease or buy further amounts of land, since this will appear irrational. However, farms which do not possess an amount which allows them to utilise all their labour power will be interested in buying land, and thus the principle follows that the more the peasant farm will be ready to pay for land, the less it owns already, and therefore the poorer it is.⁶ Thus the price of land will depend on the extent and urgency of land demand among peasants with little land, and the level of supply of land.

Chayanov notes that other economic categories, such as the market rate of interest, behave analogously. An interesting result of this theoretical postulation is as follows. Chayanov claims that from the peasant emancipation (1861) to the revolution (1917), both the family labour farm and capitalist large-scale enterprises existed. This led to the destruction of capitalism because the peasants, relatively short of land, paid higher rates for the land than the capitalised rent in capitalist agriculture. Thus this led to the sale of large landed property to peasants and the ousting of capitalism by peasant economy.⁷ Chayanov also discusses in this article a system where commodity exchange is absent and consequently there is no category of market price. In such a system the economic equilibrium between demand satisfaction and drudgery of labour still plays the determining role, but price is not a mediating category which enters into calculation. According to Chayanov demographic factors are very important in this case.⁸

Chayanov then discusses the slave system and determination of the market price in such a system. The market price for a slave tends to an amount similar to the capitalised rent of the marginal slave. This would be the demand price, whilst the prime cost of slave production forms the supply price. Chayanov distinguishes between two systems of slave economy - where slaves are captured through war and plunder, and where slaves are reproduced within the slave family. In the former case the prime cost of slave production is the cost of capture, in the latter case it is the cost of raising. Chayanov writes:

...the slave price, as a phenomenon subject to the laws of the market, is an objective category which determines slave production...the slave economic unit ...can appear advantageous only as slave production yields a net product that does not amount to less than the slave rent that exists...and, through the market, is realised in the slave price.⁹

Thus Chayanov implies that the market and market price determination functioned in slave society. In general it is clear that Chayanov sees the market and capitalism as not identical, and thus a market economy and a capitalist economy could be two

different systems. Markets can exist outside of capitalism, although capitalism would require markets to function.

In this article on comparative economic systems Chayanov also discusses communism, or state collectivism. In this system all the economic fundamentals of capitalism - capital, interest, wages, rent - are completely eliminated, and thus exchange and price drop out of the system. Manufactured products cease to be values in a money or exchange sense, rather they are goods distributed according to a state consumption plan:

The exertion of social labour power is here, obviously, as in the family unit, taken to a point where the equilibrium between drudgery of labour and social demand satisfaction has been reached. This point is, obviously, fixed by those state organs which work out the state production and consumption plans...¹⁰

Here Chayanov seems to be implying that the state planners will aggregate the entire population's drudgery of labour and demand satisfaction curves, and where these two curves meet will be the point to which labour is taken. This may be disaggregated at branch or republic level, but the interesting point is that Chayanov is implying that communist planners will use tools of economic analysis developed by the marginal utility school.¹¹ It is clear that Chayanov gave no role to markets in communism.

Chayanov notes that, in contrast to all the systems he has discussed previously and which exist purely automatically, a communist economic order requires continuous social exertion and a number of economic and non-economic sanctions to prevent the rise of economic activity not intended by the state plan.¹² By what means are the individual workers to be driven to labour so that the input expected of them by the plan is actually carried out in practice? Chayanov writes that the theorists of communism have yet to solve this problem.

Chayanov's conception of the feudal economic system is interesting in relation to price determination. According to Chayanov the feudal economy is a symbiosis of the natural labour economy of tribute-paying peasants and the monetary and exchange economy of the commodity-trading feudal lords. Therefore it has two systems of economic categories intertwined. A fief system is

a special form of feudal economy in which the basic stratum of primary producers pay tributes to the feudal lords in kind, while the recipients of these tributes realise them as commodities on distant markets. In this system:

...the economic activities of the feudal lord and his intervention on the market is almost always condemned to be passive. The prices of his goods are not connected with their production and are wholly determined by the receptiveness of the market...¹³

Excluding the cost of production element from price determination thus produces a peculiar system of price formation specific to this type of feudal economy. The distinction between market maker and market taker is thus used by Chayanov to assist in explaining the feudal economic system and the type of price formation which occurs in it.

7.3 - PEASANT ECONOMY AND MARKET STRUCTURE

One of Chayanov's major works was his *Organizatsiya krest'yanskogo khozyaistva* of 1925. This work was intended to explore in detail the family labour farm and the organisational principles upon which it was based. However, before going into the detail it is worth noting that the basic ideas of this work were, according to Chayanov, put forth as early as 1912, and these ideas were brought forth by the deep changes which occurred after the 1905 revolution.¹⁴ Thus its relevance to NEP Russia is debatable. However, since many Marxists such as Kritsman took Chayanov's work seriously during NEP and subjected it to detailed criticism, it seems clear that the issues which Chayanov discusses were of direct relevance to this period.

Chayanov places the development of an internal market for agricultural produce in Russia at the beginning of the twentieth century. From this point market relations and the commodity nature of peasant farming rapidly developed.¹⁵ However, this does not necessarily mean that the family labour farm is being eroded, since this type of farm can enter into various different economic systems. It can be the basis of a natural economy or a feudal

economy, and at present it is being drawn into the system of the capitalist commodity market.¹⁶

Chayanov outlines the process by which scattered peasant farms are brought into a market system as follows. It need not involve the creation of large-scale capitalistically organised production units, but rather trading capital draws masses of isolated peasant farms into its sphere of influence and binds these producers to the market. These trading links convert the natural family farm into a small commodity producer and thus open the path for the penetration of capitalist relations into the countryside:

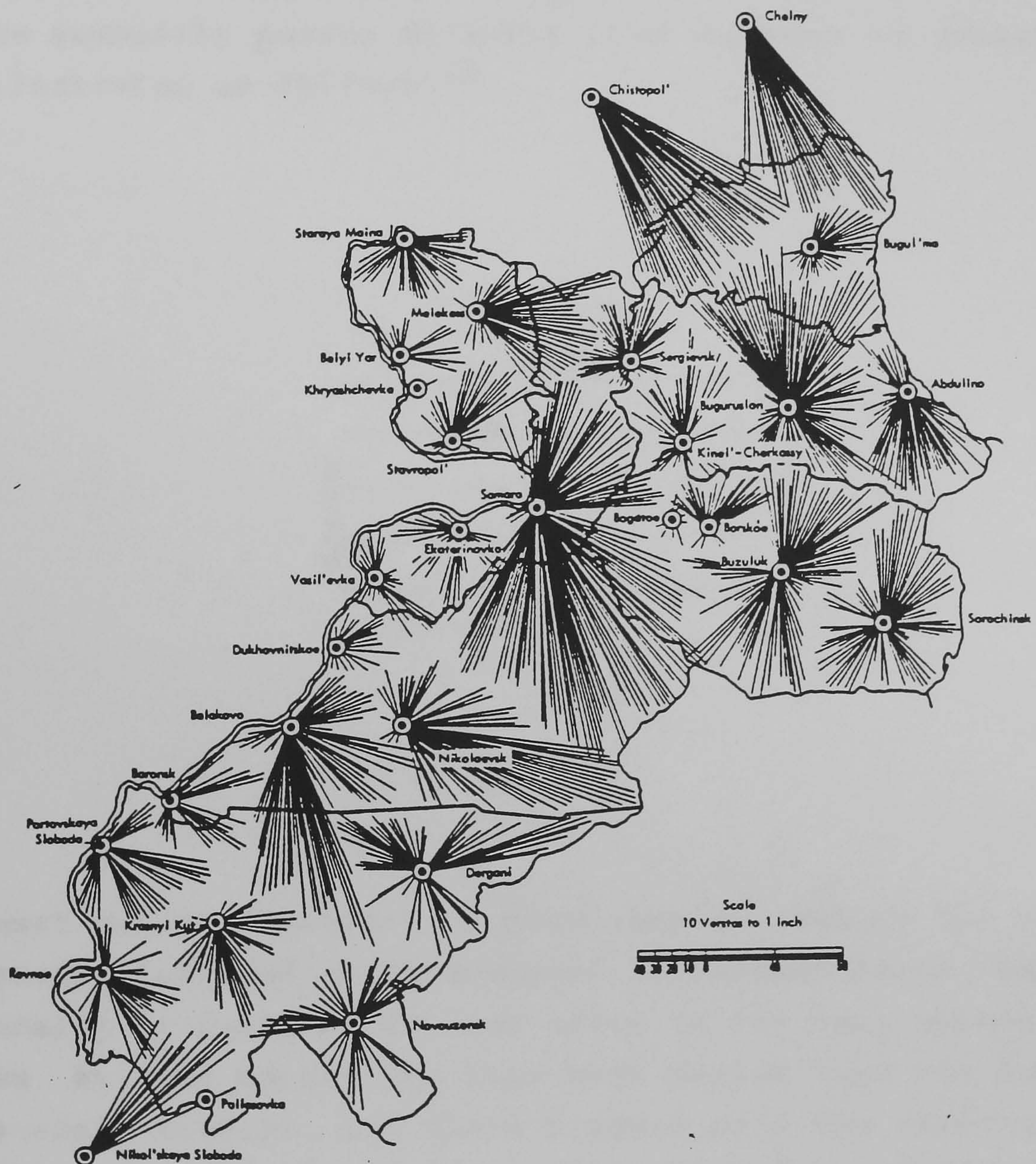
Through these connections every small peasant undertaking becomes an organic part of the world economy...is powerfully directed in its organisation by the capitalist world's economic demands, and in its turn, together with millions like it, affects the whole system of the world economy.¹⁷

Chayanov notes that the system of the local rural bazaar, at which the peasant sells his harvest and buys what he needs, has been little studied. This bazaar is the 'primary cell' of market infrastructure which connects the various parts of the general economic organism. G.I. Baskin studied grain sales in Samara guberniya, and came up with the network of trading links shown overleaf.

Observations of local life show that the bazaar site is a concentration of all local trading, cooperative, business, and even spiritual life for its catchment area, since the area's inhabitants are united by the bazaar where they invariably meet. In turn, the local bazaars are connected to larger centres of wholesale trade, and through this network a national economic whole is constructed from dispersed peasant farms. Chayanov notes five basic steps taken by the commodity in this trading network:

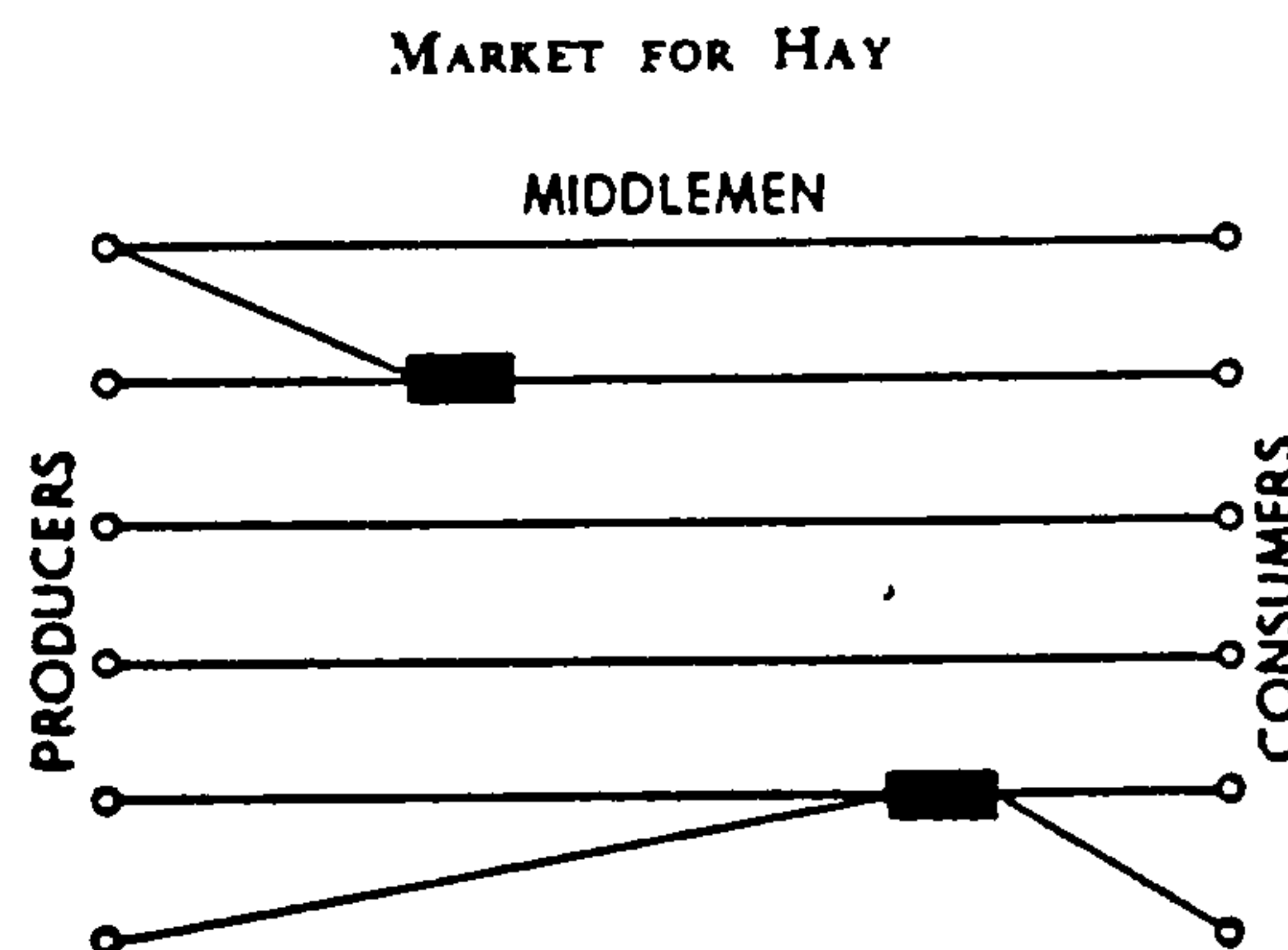
- 1) the commodity, scattered among individual producers, is collected by jobbing buyers and dealers and is concentrated into their hands;
- 2) commodities collected by the buyers are roughly sorted and transported to local wholesale trade centres;
- 3) in these wholesale centres commodities are sorted and

TRADE CATCHMENT AREAS IN SAMARA GUBERNIYA BEFORE THE WAR

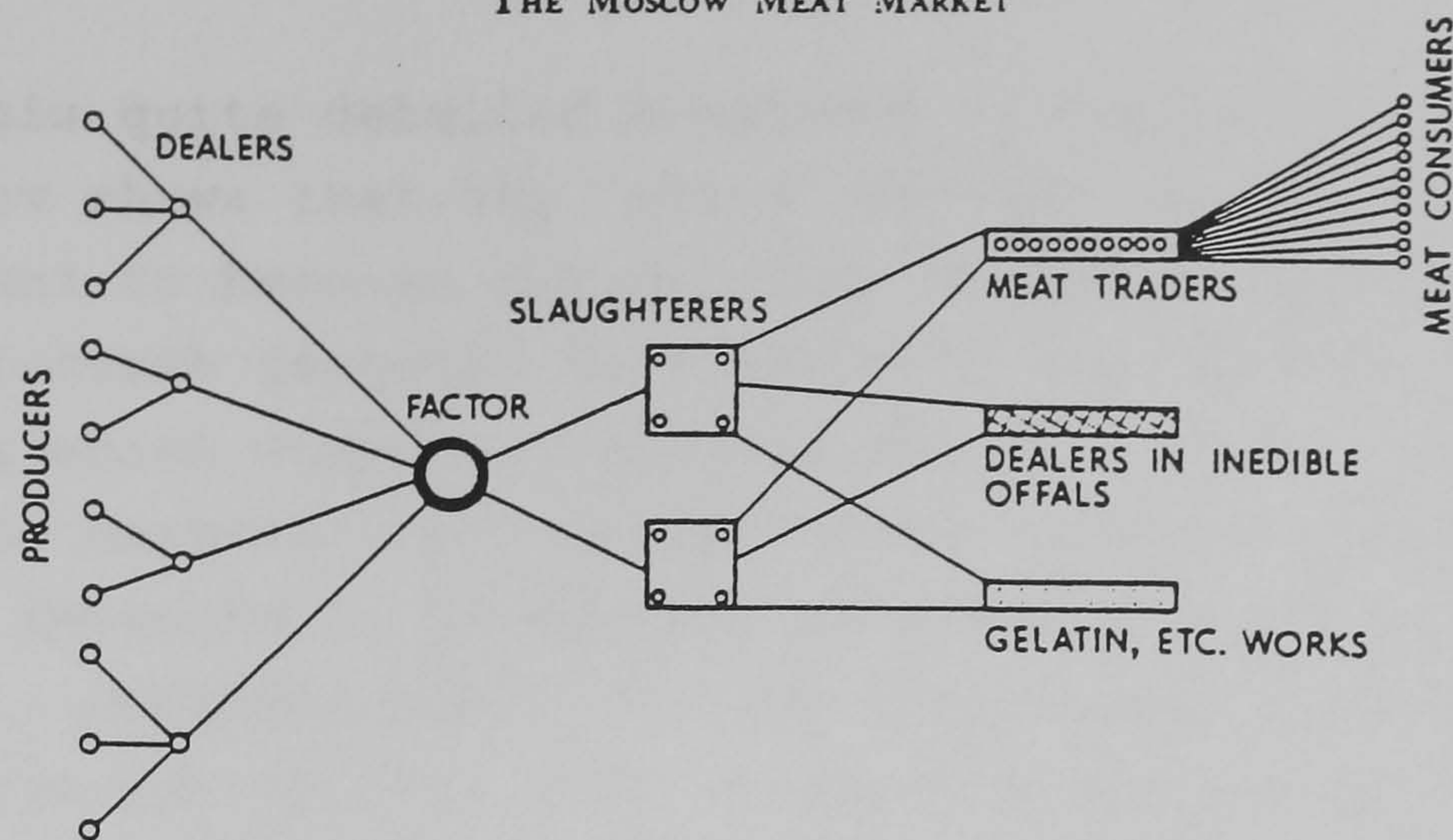


- distributed for onward transmission;
- 4) commodities collected are sorted and transferred to local consumer wholesale centres;
 - 5) from these local wholesale centres commodities are distributed with the help of the trade distribution network - local stallholders and traders.

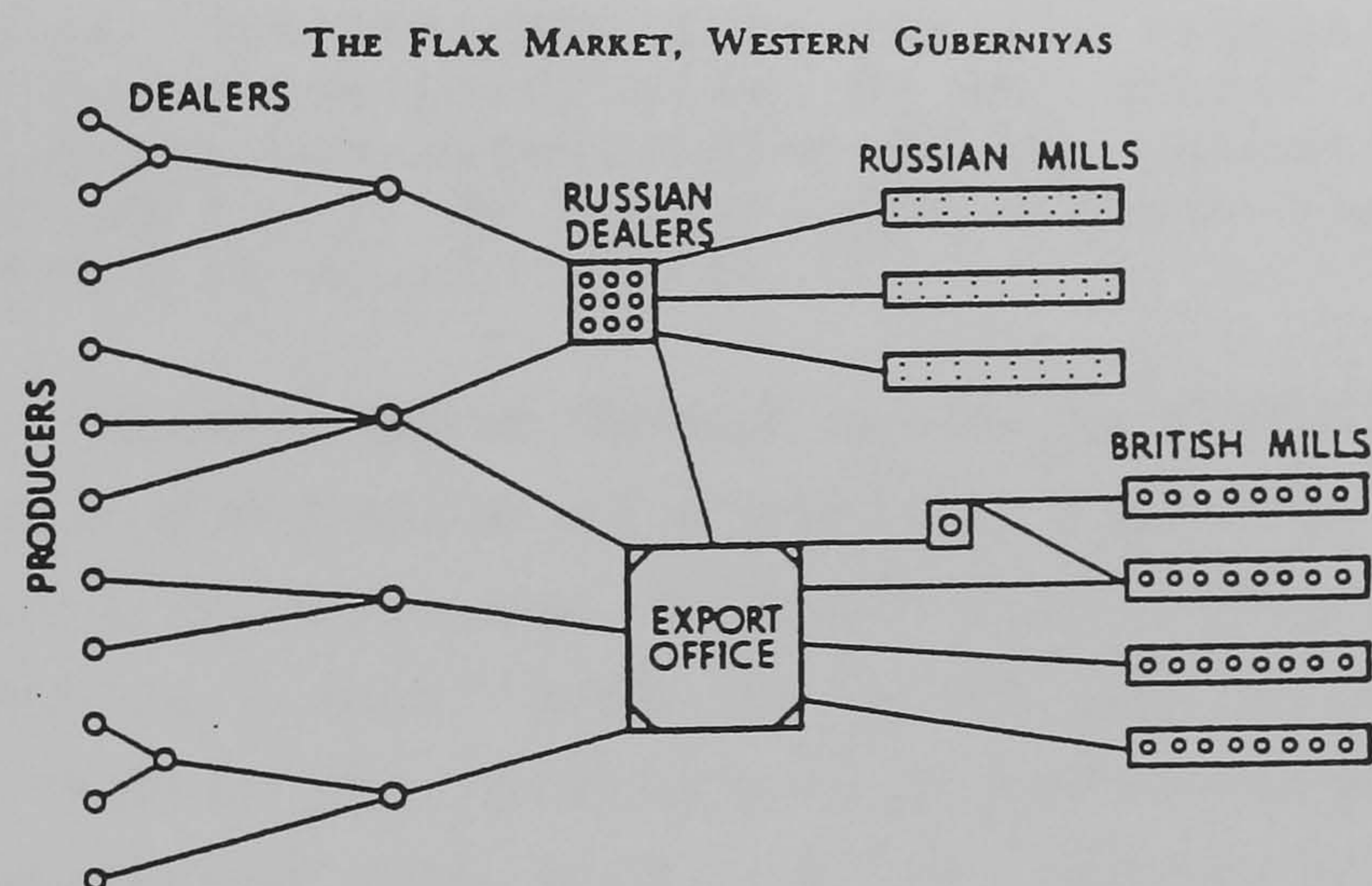
This is the general scheme, but according to the particular commodity the scheme can change form and take on individual features. Chayanov compares the hay, meat, and flax markets. The organisation of the hay market is simple, since the greater part of the commodity passes directly from producer to consumer. This is illustrated as follows:¹⁸



The meat market, however, is more complex. Before the war livestock, fattened on landowners' or peasant farms, was bought up locally by dealers and then taken to the next market in Moscow. At this market the livestock passed into the hands of large-scale traders, and these traders sold the livestock to slaughterers, who cut up the animal into parts. Different parts were sent to different places, for example the offal went to gelatin and other factories and the meat went to butchers and canning factories. This structure is shown as follows:¹⁹



Hides, flax, cotton, and other similar commodities give a still more complicated picture. Chayanov notes that this market structure varies according to region. For example in the Western flax-producing areas which serve the world market there are many middlemen and a complex web of market relations exists. Flax brought to the bazaar by the peasant falls into the hands of small-scale buyers, who after sorting sell to local town traders or foreign export agents. Arriving in Western Europe the flax again passes from hand to hand until it finally reaches the mill. This is shown below.



Frequently this trading machinery, concerned about quality standards, actively interferes in the organisation of production. It may lay down technical conditions, issue seed, or determine the rotation of crops.

This quite detailed breakdown of market structure by Chayanov shows that the 'place' meaning of the market was very important to Russian agricultural analysis in the first part of the twentieth century. In a sense it can be regarded as the base meaning which other conceptions are built upon, since without concrete markets where products are exchanged the notion of the market determining production priorities would not make sense. However, Chayanov does not link the 'place' conception to any other conception, nor does he examine the notion of a market mechanism in any detail. The idea of maximising profit is present in his work, but how this leads to certain production priorities being chosen, or whether these priorities are rational, are not questions which Chayanov poses in this particular work. As I show further on, he does discuss these questions in other works.

In a work entitled *Osnovye idei i formy organizatsii sel'skokhozyaistvennoi kooperatsii* of 1927, which was a revised and supplemented edition of a book first published in 1919, Chayanov discusses market structure in relation to peasant cooperatives. This work was partly a practical guide to cooperative organisation, and in it Chayanov writes:

The size and breadth of the market is one of the most important preconditions for its organisation on cooperative principles. We may assert that the cooperative organisation of the marketing of any product will be easier, the greater the absorptive capacity of its market.²⁰

In a small market where demand can be satisfied very rapidly, the fortuitous accumulation of a product will overload the market and lead to a fall in prices. Chayanov gives the example of the fresh milk market in a small town. At first the market is found to be adequate, but as the cooperative business develops the market becomes saturated with milk and the cooperative has to change over to supplying butter - a product with a wider market.

Apart from the capacity of the market, much depends on the degree of flexibility in consumption of the product. Neither a rise in price nor a decline in well-being can lead to any drastic change in the consumption of grain products. A different state of affairs prevails in relation to sugar or cotton markets, where

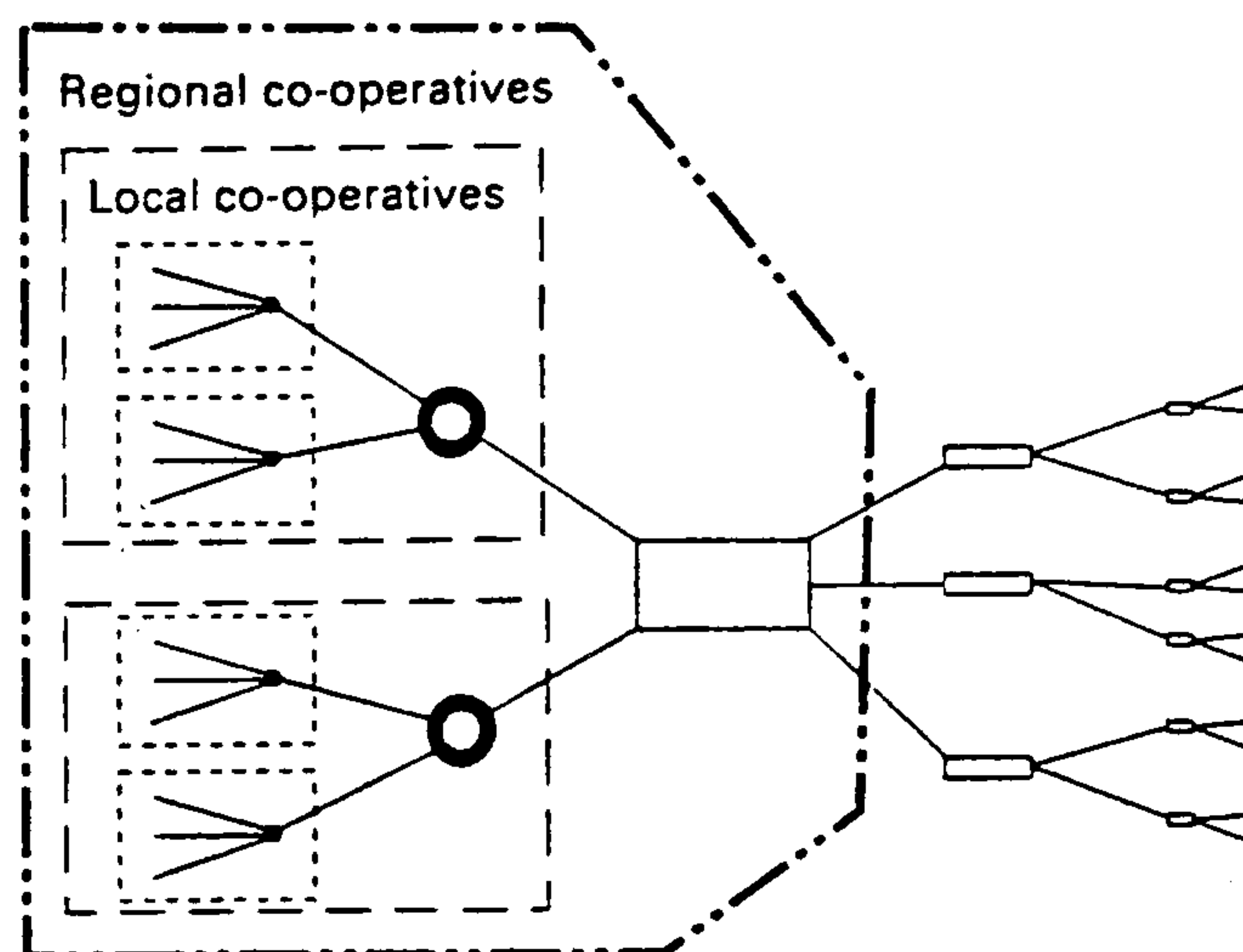
consumption rates are highly flexible. In this latter case a high elasticity in consumption rate exists. Chayanov declares that the greater the flexibility of consumption of a product the greater the capacity of the market for that product will be. The social composition of consumers affects market capacity also. If a product is consumed only by the prosperous stratum of society (eg expensive fruits, silk etc) then the market will have only a small capacity. Hence the greater the number of consumers the greater the market's absorptive capacity.

Apart from market capacity the successful cooperative organisation of marketing depends on the conditions of the commercial organisation of the market itself, and on the kind of trade routes the commodity travels. For example the nature of the market's financial and credit structure is of great importance for the organisers of cooperative marketing. When studying market organisation the following points should be kept in mind:

- 1) to what extent monopoly conditions exist and how sharp is the competition between buyers and sellers. An increase in the number of buyers and sellers will tend to favour cooperative marketing;
- 2) the extent of credit settlements on the market. Where cooperatives are entering the market as wholesalers the work will be easier the more widespread is the practise of cash settlements;
- 3) the organisation of the market on cooperative principles will be easier the lower the levels of capital being used by private traders;
- 4) the speed of travel through the market affects the relative monetary weakness of cooperatives;
- 5) cooperative marketing will be most successful where trading techniques are the most elementary.²¹

Chayanov relates that a cooperative organiser who hopes to replace the existing commercial apparatus has to ascertain what function is performed by each component of this apparatus, and has to decide what kind of cooperative organ will undertake this function. The local cattle-dealer will be replaced by the local cooperative. The local wholesale trader will be replaced by the local territorial association, and the export office by this

association at a higher level. Chayanov relates this structure diagrammatically as follows:²²



Cooperative organisers should not slavishly imitate the commercial apparatus, but should adapt this apparatus to its own requirements. Organisational forms are also affected by the fundamental difference in nature between cooperative and private trade. Cooperatives never conduct purely commercial operations, that is they never purchase with a view to re-selling at a higher price. Cooperative purchasing must provide the peasantry with good quality products at the lowest possible prices.

The organisation of the market over time is also very important to the organisation tasks of cooperation. Different agricultural products are produced in peasant households at different times, and these products are delivered to the market with varying degrees of rapidity. For example existing data indicates that the peak periods of delivery are August and September in the case of grain, December and January for flax, and May and June for fresh milk in Moscow. Delivery of meat varies according to the fodder base used: in the case of grasslands deliveries are greatest in the summer, in the case of sugar beet deliveries are greatest in winter.²³

The problem of determining the selling price of a good sold cooperatively is the problem of determining the highest price at which the good can be sold on the market. The basis for price calculation is the valuation given to the goods when they are accepted by the selling cooperative, combined with the overhead

trading expenses borne by the cooperative apparatus. These two amounts added together represent the limit below which prices must not be allowed to fall. However, this is only the lower limit, and the whole art of cooperative selling is to try to raise the price as much as possible above this level. Chayanov notes that only a central organisation which can follow the state of the markets is capable of finding the correct price level.²⁴

The analysis of markets found in *Osnovnye idei* shows that Chayanov's theoretical conception of the market as outlined in *Organizatsiya krest'yanskogo khozyaistva* was also of use when it came to the practical task of organising agricultural cooperatives. The breakdown of market structure allowed Chayanov to recommend that cooperatives should try to imitate the configuration of private trade in some respects, and the analysis of market capacity was a method by which cooperatives could tailor their supply to the demands of consumers. These practical conceptions of the market contrast quite strongly with the more theoretical view of the market as an optimality mechanism, a conception which Chayanov does not mention in his work on peasant cooperatives.

Within Chayanov's family labour farm system pride of place in determining the amount of production undertaken is given to the labour-consumer balance - work is undertaken until the farmers subjective evaluation of the drudgery of the marginal labour expended outweighs his subjective evaluation of the gain obtained by the marginal good.²⁵ However, this was not the only determining factor. Chayanov writes:

Among...differences in the farm's organisational plan, the most basic one which determines the whole character of the farm's structure is the degree to which the farm is linked with the market - the development of commodity production in it.²⁶

This may be seen as a concession to his critics, who had accused him of neglect of this aspect of economic life.²⁷ The market influences peasant production, according to Chayanov, by allowing the farm to neglect production of certain products which can easily be obtained on the market, and thus to concentrate on goods which yield a healthy return. Geographical locality plays a

very important role in this process - farms close to trading centres can afford to specialise more than farms situated at a distance from such centres. The following table shows the percentage of in kind and in money incomings and outgoings for various areas of Russia:²⁸

UEZDS	INCOMINGS		OUTGOINGS	
	in kind	in money	in kind	in money
Volokolamsk	55.8	44.2	52.7	47.3
Gzhatsk	65.6	34.4	64.8	35.2
Porech'e	75.8	24.2	76.0	24.0
Sychevka	62.7	37.3	63.0	37.0
Vel'sk	72.2	27.8	42.0	58.0

Chayanov takes two extreme cases - a Tot'ma farm where 22% of the budget is in money, and a Volokolamsk farm where 61% is in money - and shows that this affects the types of produce cultivated on the farms. In the former case 87% of the produce is prepared for in-farm consumption, whereas in the latter case this figure is 39.6%. Commodity type farms are also distinguished from nonmonetary farms by the character of the economic calculation they use. In the nonmonetary farm qualitative calculation predominates - it is necessary to obtain that amount of produce which satisfies the internal needs of the farm. In this type of farm questions such as whether it is more advantageous to sow rye or mow hay would not arise, since they could not replace each other and could not be quantitatively evaluated through market price.²⁹ In a monetarised farm concern with quantity becomes paramount - concern for maximising the price obtained for products sold. As the degree of monetarisation grows, the farmers become less concerned with what they actually produce, and more concerned that what they produce obtains a good market price. Thus the market conjuncture affects their decisions about which crops to grow. According to Chayanov this is the internal organisational and economic meaning of the transition from a nonmonetary farm to a commodity one.³⁰

Chayanov actually advocated using the market to calculate which crops are the most advantageous and thus to plan farm development. Long-term changes in conjuncture alter the

comparative advantage of various crops, and institutes of market forecasting, observing these shifts:

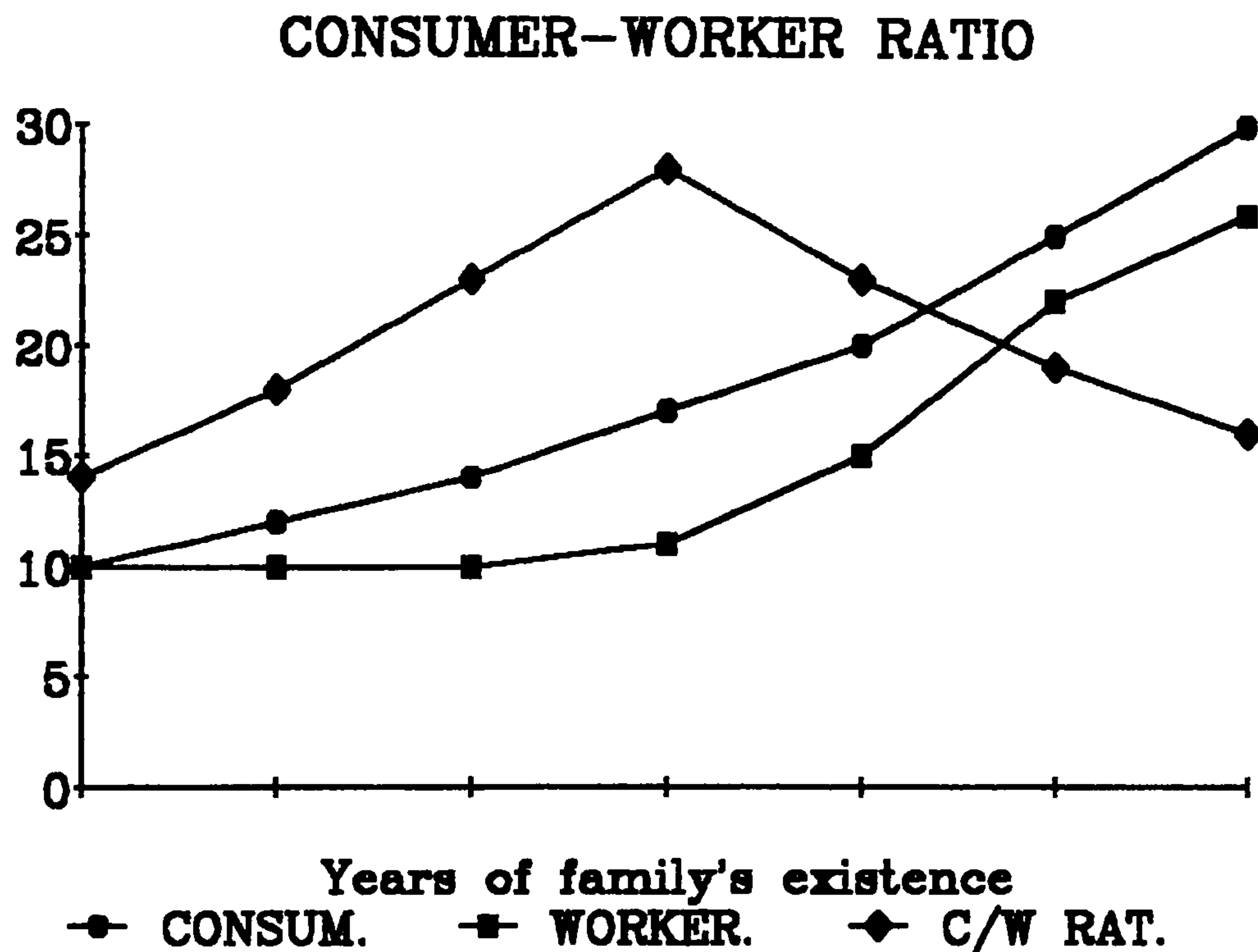
...ought in future to be responsible for a constant watch on the probable profitability of different crops, and by this comparative analysis give a pointer to the practical workers in agriculture as to the selection of the annual direction of their economic work.³¹

This idea cuts across a simple opposition of plan to market, rather it implies that the market can be/is used as a form of planning. This assumes that the market gives a rational and correct evaluation of the needs of consumers, and thus conflicts with the Marxist notion of the market as being irrational and contrary to human need. Chayanov does not seem to link the market with exploitation, and thus his conception of the market in this context is of an economic mechanism for evaluating the comparative advantages of various crops. This corresponds to the neo-classical view which argues that the market achieves optimal resource allocation, and thus Marxists who accused Chayanov of being close the Austrian school were not totally incorrect. These assumptions are implicit in Chayanov's work rather than being explicitly stated.

It is worth examining how Chayanov theorised the difference between family labour farms and capitalist farms in more detail. A key aspect of the labour farm was that the person who decided what to produce from the supply side and the person who decided how much was required for consumption from the demand side was united into a single figure - the head of the farm. Thus it was a question of balancing these two requirements. Chayanov theorised this as the labour-consumption balance, in which necessary goods produced are weighed against the drudgery of labour required to produce them.

However, since the internal composition of the family farm did not remain static during its existence, the equilibrium point would shift in relation to family size. Chayanov constructed a model of family dynamics from budget studies in which a surviving child is born every third year into a young family that has just been established, and where the cycle of existence lasts twenty

five years.³² From this model Chayanov deduced that in the first years of the family's existence it becomes ever more burdened with children unable to work, and there is consequently a rapid increase in the proportion of consumers to workers. In the fifteenth year, however, children begin coming on-line as workers, and thus the consumer-worker ratio begins to fall. From this point onwards the ratio falls consistently as more children grow up and begin working. Chayanov represents this process graphically as follows:



Clearly this model is based on a number of simplifying assumptions which may not be met in reality, but the important point which Chayanov draws from this model is that each family, depending on its age and thus its consumer-worker ratio, will be a completely distinct labour machine as regards labour force and intensity of demand, and thus the point of labour-consumption balance will vary depending on family composition. Chayanov writes:

Since the labour family's basic stimulus to economic activity is the necessity to satisfy the demands of its consumers...we ought to expect the family's

volume of economic activity to quantitatively correspond more or less to these basic elements of family composition.³³

Thus what drives the family farm is not maximising profit, but maximising family demand satisfaction.

So, how is all this related to the market? Chayanov has constructed a theory which shows why peasant farmers will behave differently to capitalist farmers *on the market*. An important example which Chayanov gives of this differing behaviour, confirmed by direct observation, is as follows. If, as a result of an improvement in the market situation or a more advantageous farm location, each labour unit begins to yield greater earnings, the total earnings of the farm will of course increase, but not at the speed at which the productivity of a labour unit increases. Consequently, the number of labour units sold falls. In this example the peasant is making use of the favourable market conjuncture by reducing the number of hours worked, thus reducing drudgery of labour, despite the tendency of a capitalist farmer to increase production in such a favourable market situation.³⁴ This is a clear example how the logic of the situation for a peasant on a family labour farm differs from that of an entrepreneur on a capitalist farm.

This reveals a very important point. While markets may have existed prior to capitalism or even commodity production, this does not mean that economic subjects behaved identically to subjects in a capitalist system on these markets. Behavioural diversity on markets is caused by the structure of the economic units in which particular subjects are embedded.³⁵ Again this reveals Chayanov's separation of markets from capitalism implicit throughout his works. It would be possible to argue that behavioural differences on markets are caused by the relation of producer and consumer in an economic system. In capitalism the entrepreneur is separated from the worker, thus allowing the principle 'maximise profit' to be implemented without regard for workers' drudgery of labour. However, in the family labour farm the producer and consumer are united, thus forcing a balance between satisfaction of demand and drudgery of labour. This type of analysis seems also to be implicit in Chayanov's theory.

Chayanov was also concerned in his theorising of peasant economy with the question of the optimal size of agricultural enterprises. He first published an essay on this topic in 1922, and revised this work to form *Optimal'nye razmery sel'skogo-khozyaistvennikh predpriyatii* of 1928. The question of the optimal size of farms Chayanov considered to be the problem of finding such a size of farm land on which the prime cost of produce would be minimised.³⁶ This also corresponds to the point at which the advantages and disadvantages of small and large scale farms are equalised. Chayanov plotted prime cost per unit against farm size, and the minima on the aggregate cost curve corresponded to the point of optimal size. He disaggregated this curve into three components: a) those elements whose costs decrease under increasing farm size, such as costs of machinery, utilisation of buildings, and administrative expenses, the curve of which declines with increasing size; b) those elements which have increasing costs in relation to farm size, such as inter-farm transport and losses from less intense supervision, the curve of which ascends with increasing farm size; c) those elements which do not change, the curve of which is a horizontal straight line. Aggregating these elements produces the total cost curve.

However, it is important to note that the costs of such elements are likely to change with the market conjuncture. Chayanov recognised this, and showed that in relation to the industrial/agricultural price axis, an increase in the price of industrial machinery would increase the costs of agricultural production and consequently reduce the optimal farm size. This reasoning reveals that the optimum which Chayanov was examining was a relative optimum, relative to market conjuncture. Such an analysis does not show, or claim to show, that a market system of agriculture produces optimal (or non-optimal) results. Most Soviet agrarian studies at this time were concerned with the question of differentiation in relation to the development of capitalism in agriculture, or with the level of 'exploitation' (labour market) which had developed. The question of whether capitalism was optimal in any sense may have seemed somewhat absurd in relation to the extremely poor working conditions

suffered by many workers, and thus may not have been taken seriously at this time.

7.4 - FORMS OF OWNERSHIP

Before the 1917 revolution Chayanov had been a leading member of the League of Agrarian Reform, a body which argued for change in agricultural forms of production. In a work called *Chto takoe agrarnyi vopros?* of 1917, which bore the imprint of the League for Agrarian Reform, Chayanov outlined various reform scenarios. He argued that a reform of land utilisation is unthinkable without a restructuring of economic organisation, which meant resurveying, land improvement, agronomical reform, and production and credit reforms.³⁷ Thus land reform must occur not by a non-organised path, but on the basis of a state plan for rural reconstruction, elaborated on the basis of the social and economic features of various regions.³⁸ Chayanov then outlines the basic types of state resolution of the agrarian question.

The most distinct from the existing agrarian order is the idea of socialisation (*sotsializatsiya*) of land. With this idea land becomes all-people's property (*obshchenarodnym dostoyaniem*), and it is possessed (*dostoyaniem*) but not owned (*sobstvennost'yu*).³⁹ For the organisation of this the peasantry are united on the basis of organs of land self-management (*obshchiny*) into the hands of which the state transfers land. Because the land is free it cannot become property (*sobstvennost'*), it cannot possess value, and it is utilised free of charge. State and local taxes are levied on farms, but not on land.

A completely different theoretical possibility is the idea of nationalisation (*natsionalizatsiya*) of land. In this case value is not ousted as a social category, and land rent is paid since land still remains property. However, in this case the property lies with a single owner - the state.⁴⁰ The state as owner receives the following rights:

- 1) the right to all land rent for use as a source of state finance;

2) the right to direct land use in the interests of the state. Using these rights the state leases out land to working farms, who in turn pay the state an agreed sum. One of the forms of nationalisation, under which local land is directed by local organs of land self-management the rights of which are limited only by all-state laws on land, is municipalisation (*munitsipalizatsiya*) of land. In this case land rent is paid to the local organs of self-management. These are the basic ideas of land construction which are most discussed in socialist circles.⁴¹

An especially interesting idea is that to solve the agrarian problem state reorganisation of the existing system of land use is not required, rather what is needed is the creation of such conditions under which spontaneous processes of national-economic evolution themselves would establish the ideal forms. This idea has received the most attention by several economists in the formula of a system of state regulation of land ownership.⁴² Under this scheme private ownership is not destroyed, but the right to freely buy and sell land is curtailed. The land market is regulated by the state, and thus the state controls use of this land. To accelerate the transition of privately-owned farms into labour farms a system of discriminatory land taxes would be devised.⁴³

Another idea is for the establishment of a unified land tax. This is sufficient for solving the agrarian problem since land, deprived of rent, loses its value and consequently its attraction for capital. Capitalist landowners establish only those farms which intensity and rationality authorise them to exist, and which under a tax yield equal rent.⁴⁴ Thus the system of a unified tax differs from socialisation or nationalisation. Comparing the various systems of land reconstruction, Chayanov notes that the main difference between them lies more in the plane of justification than in the plane of concrete conditions of land use. These ideas show how land will be used after the reform, but do not show the path to be taken to achieve the ideals.⁴⁵

It is clear from this discussion that Chayanov separated the question of ownership from the question of the economic

mechanism. Reform scenarios are proposed which alter property relations, but no argument is made for development of 'the market'. The idea of regulating specific markets is proposed, but no argument from 'the market' as such is made. It is apparent that arguments in the 1990s about the need for a simultaneous reform of property relations and the economic mechanism adopt a different approach than that of Chayanov in this work.

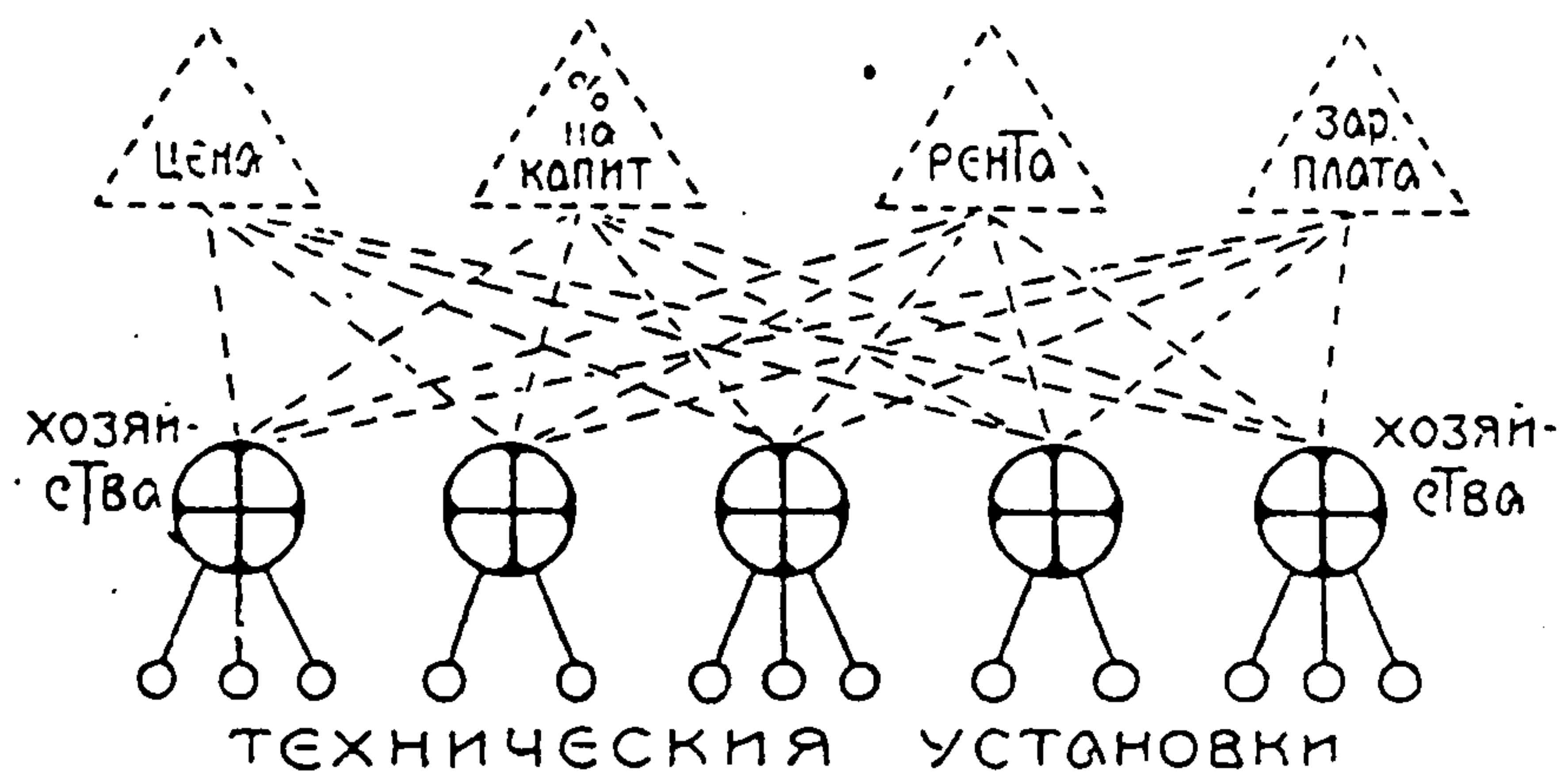
7.5 - NON-MONETARY ACCOUNTING

In 1920, in the spirit of War Communism, Chayanov wrote a work entitled *Metody bezdenezhnogo ucheta khozyaistvennikh predpriyatii* which examined non-economic methods of accounting. This addressed the problem of the methods to be used in socialist economy to determine what products to produce. In a capitalist economy, which Chayanov represented in a diagram shown overleaf:

Market prices, wages, rent, and other categories of capitalist economy arise as a result of a multitude of socio-economic relations representative of a complex apparatus generated by human society and still not fully studied by science.⁴⁶

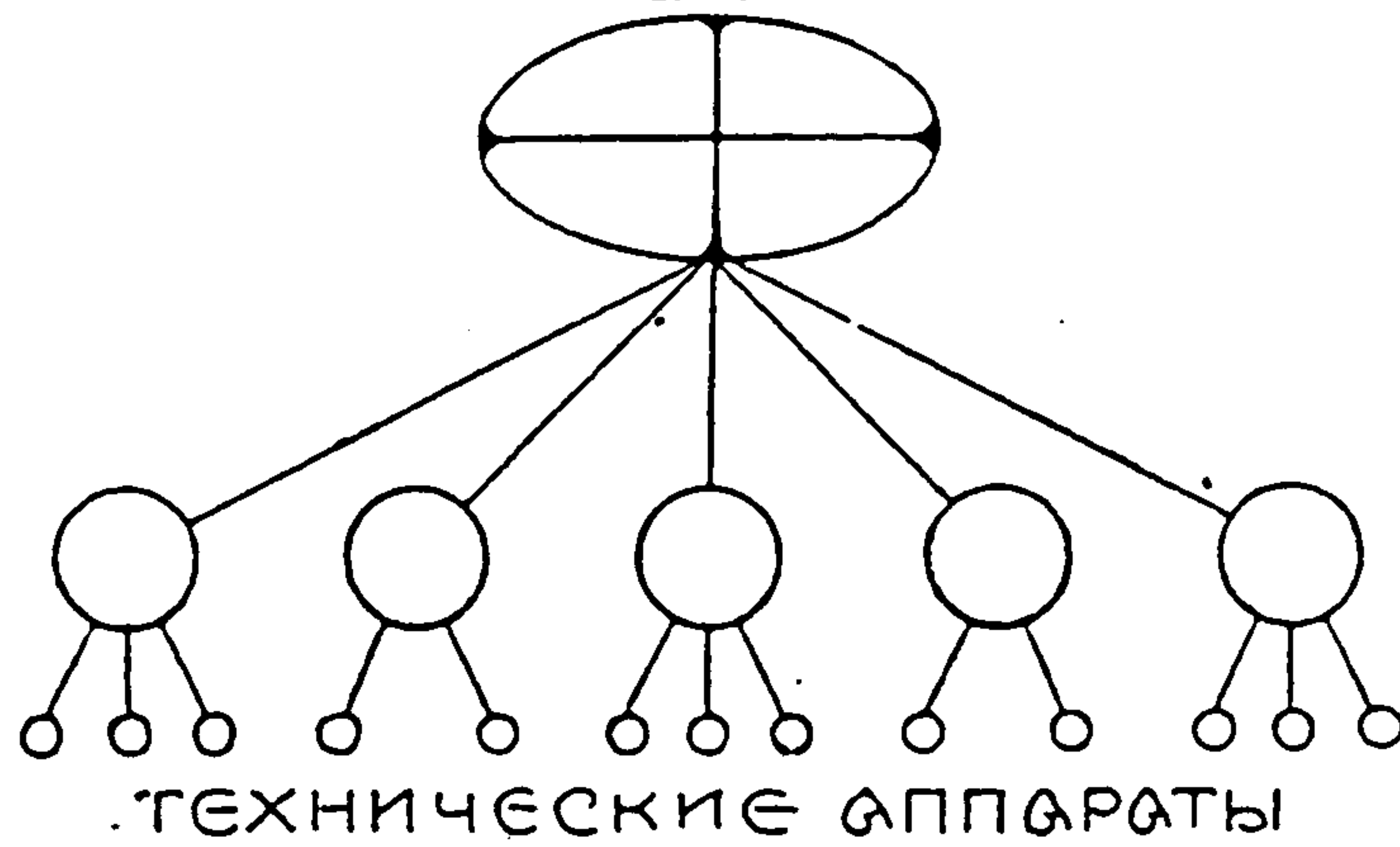
This explanation of capitalism, and the structure of Chayanov's diagram which represents it, shows that Chayanov perceived of capitalism as an economic system without a central coordinating body which focuses and directs economic activity, ie is a polycentric organisational system which functions spontaneously. In contrast to this, Chayanov represents a socialist economy by a diagram (also shown overleaf) which clearly possesses a central body which focuses and coordinates economic life. In this economy there is a unified production plan, and all products are distributed between consumers by the state, ie by the central body.⁴⁷ Such a system is clearly monocentric in nature. Chayanov notes this difference, but does not further analyse it. He does warn of the dangers that monocentrism may cause in terms of free choice, something which is stressed in much current literature on planning versus the market.

Строение капиталистич. хозяйства



Аппарат социалистич. хозяйства

ЕДИННОЕ ГОСУДАРСТВЕННОЕ
ХОЗЯЙСТВО



Chayanov presents a table of the differences between the old capitalist calculation and the new socialist type of calculation, which is shown as follows:⁴⁸

TASKS OF CALCULATION	
OLD	NEW
A) Full calculation of turnover of products, materials and their values	A) Full calculation of turnover of products, materials and their values
B) Categories: 1) pure profit 2) rent 3) interest	B) Categories: 1) productivity of labour 2) measure of utilisation of buildings, stock, fuel
C) Accumulation and processing of material for organisational accounting	C) Accumulation and processing of material for organisational accounting

This table shows that, while the categories used in the two forms of accounting were different, the basic processes which were to be calculated were the same. While calculation occurs in both types of system, Chayanov is clear that the nature of this calculation differs fundamentally, since 'the capitalist market gives automatically what the centre of socialist production must calculate'.⁴⁹ Chayanov compares socialist forms to pre-capitalist types of economy:

...socialist calculation organises material calculation of things *in natura*, because prices as such are absent from a socialist natural economy.⁵⁰

Instead of the old economic form of accounting, a new technical form must be devised which incorporates a completely new conception of profit. The type of accounts table which Chayanov presents corresponding to this form is shown as follows:⁵¹

DEBIT						
Record on credit	composition of workforce	number	days worked	qualification	work units	
State	administration	1	305	3	915	
	services	1	305	3	915	
Narkomtrud	constant work 1	4	1200	2	2400	
	constant work 2	6	1800	1	1800	
	daily		500	1	500	
				TOTAL		6530

This shows that Chayanov advocated using a system of time balances for labour accounting with a coefficient for more qualified labour, and he called it a labour invoice (*rabota nakladniya*) system.

In a general form Chayanov contrasts capitalist and socialist accounting as follows. The scheme for capitalist calculation is:

DEBIT		CREDIT	
outlays:	rubles	receipts	rubles
use of buildings	a		
use of equipment	b		
general expenses	c	sales	p
labour of people	d		
labour of horses	e		
seed	f		
manure	i		
	<hr/>		
	k		
	x [= p - k]		
	<hr/>		
total	p		<hr/> p

The equivalent table for socialist accounting is given by Chayanov as follows:⁵²

DEBIT	natural units						CREDIT	natural units	
outlays:	b	e	l	t	m	p	m		
	u	q	a	r	a	r	a		
	i	u	b	a	t	o	n		
	l	i	o	c	e	d	u		
	d	p	u	t	r	u	r		
	i	m	r	o	i	c	e		
	n	e		r	a	t			
	g	n		s	l				
	s	t			s				
use of buildings	a1	-	d2	-	n1	-	-		
use of equipment	-	b1	d3	-	n2	-	-		
general expenses	a2	b2	d4	e2	n3	-	-	receipts	p
labour of people	-	-	d1	-	n4	f1	-		
labour of horses	-	-	d3	e1	n5	f2	-		
seed	-	-	-	-	-	f3	-		
manure	-	-	-	-	-	-	i		
	<hr/>								
total	a	b	d	e	n	f	i		<hr/> p

In this type of accounting instead of calculation in money, natural units are used, and the balance approach can be seen clearly. Coefficients of the various inputs and outputs can be obtained by dividing each subtotal with the total, for example $ax = a/p$, $bx = b/p$ etc. In capitalist calculation the monetary value of the total sales minus the sum of costs gives profit. However, in socialist calculation the total credits and debits, expressed in natural units, cannot be subtracted to give a figure for the total balance.⁵³ In socialist accounting it is only possible to calculate the quantity of received product for the labour outlays and means of production used as inputs, a ratio which Chayanov calls the success coefficient and which is the socialist equivalent of profit. However, it is worth noting that Chayanov considers profit to be an extremely useful and essential category of capitalism which is used to determine production levels, and thus tries to find a replacement for it in socialist accounting. Equating profit with exploitation is not something which Chayanov pursues in this work.

7.6 - DIFFERENTIATION

During the 1920s there was much discussion about ways of measuring differentiation in the countryside, with V.S. Nemchinov and L.N. Kritsman being two examples of people who pursued this topic vigourously. Chayanov also entered into discussion in this area, although it was not an area in which his primary concerns layed. From the point of view of this thesis, such work is useful since it reveals what conceptions of capitalism were prevalent in this period, and this may throw some light on the area of the market in relation to other categories of capitalist production.

In *Byudzhethnie issledovaniya: istoriya i metody* of 1929 Chayanov discusses the work of Nemchinov, Groman, Kritsman, G.I. Baskin, and A.I. Khryashcheva on this topic. According to Nemchinov's conception the basic features which determine the class structure of the countryside and the capitalistic processes within it are:

- 1) the separation of the means of production from labour power;
- 2) the appropriation of surplus value.⁵⁴

The first of these features requires the development of markets for labour power and for means of production. The basic signs of the development of capitalism can thus be seen as:

- a) the relation of earnings to the sale of labour in total income;
- b) the relation of hired labour to this.

Using this type of conception Groman composed a system of socio-economic farm types in 1900 which had seven basic categories as follows: 1) capitalist-entrepreneurial not alienating labour; 2) capitalist-entrepreneurial alienating labour; 3) independent producers not alienating labour; 4) independent producers alienating labour, but in such a quantity that sale of labour is only a secondary part of earnings; 5) independent producers hiring out labour, where sale of labour equals income from independent production; 6) pure hired labour; 7) hired workers having secondary independent enterprises.⁵⁵ However, it was not until 1913 that the statistical material was available to complete a detailed study - from Mokshanski uezd - and at this time Groman utilised a five-fold grouping of farms as follows: 1) farms which have hired labour >15% - entrepreneurial; 2) farms which have hired labour <15% - transitional to entrepreneurial; 3) farms without hired labour - independent; 4) farms which hire out <15% of all their labour - transitional to hired workers; 5) farms which hire out >15% of all their labour - hired workers.⁵⁶ Thus in Groman's conception the hiring of labour is the key indicator to the development of capitalism, and thus the labour market is the key market which capitalism requires.

Also in 1913 G.I. Baskin produced a study of Stavropol'skaya uezd utilising the following basic social-economic divisions: a) according to the kind of received income - sown and non-sown; b) according to labour organisation - with yearly and period workers, with day labour, piece work, without hired labour; c) according to extra-farm employment - with or without earnings from handicrafts; d) according to the presence or absence of trade-industrial enterprises. Using this divisional scheme Baskin produced sixteen groups and five basic social-economic types. The most prevalent group were farms using only their own family labour, with 56%. Second most prevalent were farms hiring day

labour with 30%, and farms which hired yearly workers reached 2%.⁵⁷

In 1925 A.I. Khryashcheva presented a series of schemes at the Sixth All-Union Statistical Conference which divided types of economy according to production type, the presence of hired labour, and position of handicrafts. However, in 1926 Nemchinov criticised such conceptions, and suggested that the greatest degree of differentiation in peasant farms could be detected not by analysing hired labour but by examining livestock and equipment.⁵⁸ The agrarian section of the Communist Academy thus produced the following scheme:

- 1) those who hire workers for more than 50 days; with sale of labour power more than 20 days and with hire of livestock more than 20 days or hire of large equipment for more than 10 days;
- 2) sale of labour power from 20 to 50 days; hire of livestock more than 20 days or hire of large equipment more than 10 days;
- 3) hire of labour and livestock up to 20 days, equipment up to 10 days; lease of land more than 2 desyatins;
- 4) with hired labour power from 20 to 50 days, livestock more than 20 days; equipment more than 10 days; trade income from 250 to 1000 rubles;
- 5) with hired labour over 50 days; trade income over 1000 rubles.⁵⁹

This scheme thus includes the market for livestock and equipment as a measure of the degree of differential development.

In 1927 Nemchinov produced a classification scheme which attempted to synthesise all known group types, shown below:⁶⁰

CONDITIONS AND MEANS OF PRODUCTION	ON ITS FARM		PEASANT'S OWN MEANS OF PRODUCTION ON ANOTHER'S FARM
	OTHER'S	OWN	
1 Land	Entrepreneurial	Independent	Dependent
2 Fixed capital - animals, stock, buildings etc	Dependent	Independent	Entrepreneurial
3 Circulating capital - seed, fodder, manure	Dependent	Independent	Entrepreneurial
4 Labour power	Entrepreneurial	Independent	Dependent

In this scheme the 'entrepreneurial' category will correspond to a situation where its own means of production are impregnated by other labour power, and 'dependent' to a situation in which alien means of production are worked by its own labour power.⁶¹

Nemchinov gives the following figures for the percentage of farms in the various categories for Troitski okrug, Ural oblast:

1 Farms with dependent elements greater than 50%	9.7%
2 Farms with dependent elements from 15 to 50%	13.05%
3 Farms with dependent elements from 2.5% to 15%	9.7%
4 Farms with dependent elements up to 2.5%	52.93%
5 Farms with entrepreneurial elements from 2.5% to 15%	12.1%
6 Farms with entrepreneurial elements greater than 15%	2.5%

Working under the theoretical influence of Kritsman, Ya.

Anisimov, I. Vermenichev, and K. Naumov used the following breakdown of social-economic types of peasant farms:

- a) capitalist, predominantly small-capitalist farms;
- b) farms in embryonic capitalist form, evolving on the capitalist path;
- c) farms of small-commodity producers of middle peasants;
- d) semi-proletarian farms;
- e) proletarian farms with land holdings.⁶²

Kritsman uses the relation of percentage of owned means of production to owned labour as a measure of the degree of development of capitalism and as a measure of proletarianisation.

In his work *Klassovoe rassloenie sovetskoi derevni* of 1926

Kritsman had concluded that there were two basic types of capitalist being engendered in the Soviet countryside. Until now the basic expanding form of capitalist agriculture has been based on the hiring out of working livestock and agricultural stock:

...under which the hidden capitalist appears as a worker, working on someone else's farm with his own livestock, and the hidden proletarian appears as an owner without working livestock hiring the possessor of these indispensable means of production.⁶³

As well as such 'hidden' capitalists there was also the 'usual type' of capitalism, based on the hiring of wage workers, plus

trading and usury capital. Kritsman notes that the tax policy of the state apparatus operates in the same direction as trading, usury, and manufacturing capital and forces the poor to bring their labour power to market.⁶⁴

This shows that as well as the usual identification of the development of the labour market with the development of capitalism, many Marxists in the 1920s thought that the development of hire and sale markets for livestock and agricultural equipment was an equally important indicator of the advancement of capitalist relations. Thus Kritsman concluded his 1926 study of rural differentiation by stating that 'the growth of class stratification does not occur as the stratification by land, but as stratification by working livestock'.⁶⁵ This switched emphasis from the land market to the market for agricultural means of production.

According to Chayanov, the following equations were used by the Kritsman school for calculating the degree of capitalist development:

$$x_n = (a - v)/a$$

where a = the value of all means of production consumed in a budget year, and v = the value of alien means of production used on the farm. This gives an expression for the relation between owned and hired means of production. A similar measure for labour power was given by:

$$y_n = d/g$$

where d = the value of its labour power employed on its farm, and g = the value of all labour power utilised on the farm. Multiplying x_n by y_n and multiplying by 100 we receive a percentage of use of its own labour power on its means of production. Similarly it is possible to calculate a figure representing the amount of alien labour used on its own farm:

$$x_k = a/(a - b)$$

where b = the value of its means of production used on alien farms, and:

As a result two peasant indicators are created: the first characterises the elements of proletarianisation by expressing the dependence of the farm, the second the degree of development of capitalism by expressing the percentage use of alien means of production on its own land.⁶⁶ Five categories are then obtained as follows. For percentage of proletarian character: 1) >50.1%; 2) between 20% and 50%; 3) <20%; and for percentage of capitalist character: 4) <20%; 5) between 20% and 50%.

According to Chayanov there is in the countryside two absolutely different phenomena: bonded forms of exploitation, and the farmer type of entrepreneurial farm constructed in significant measure on the exploitation of hired labour. These two types are phenomena of different social and historical forms, and thus in elaborating budget materials this has to be taken into account.⁶⁷

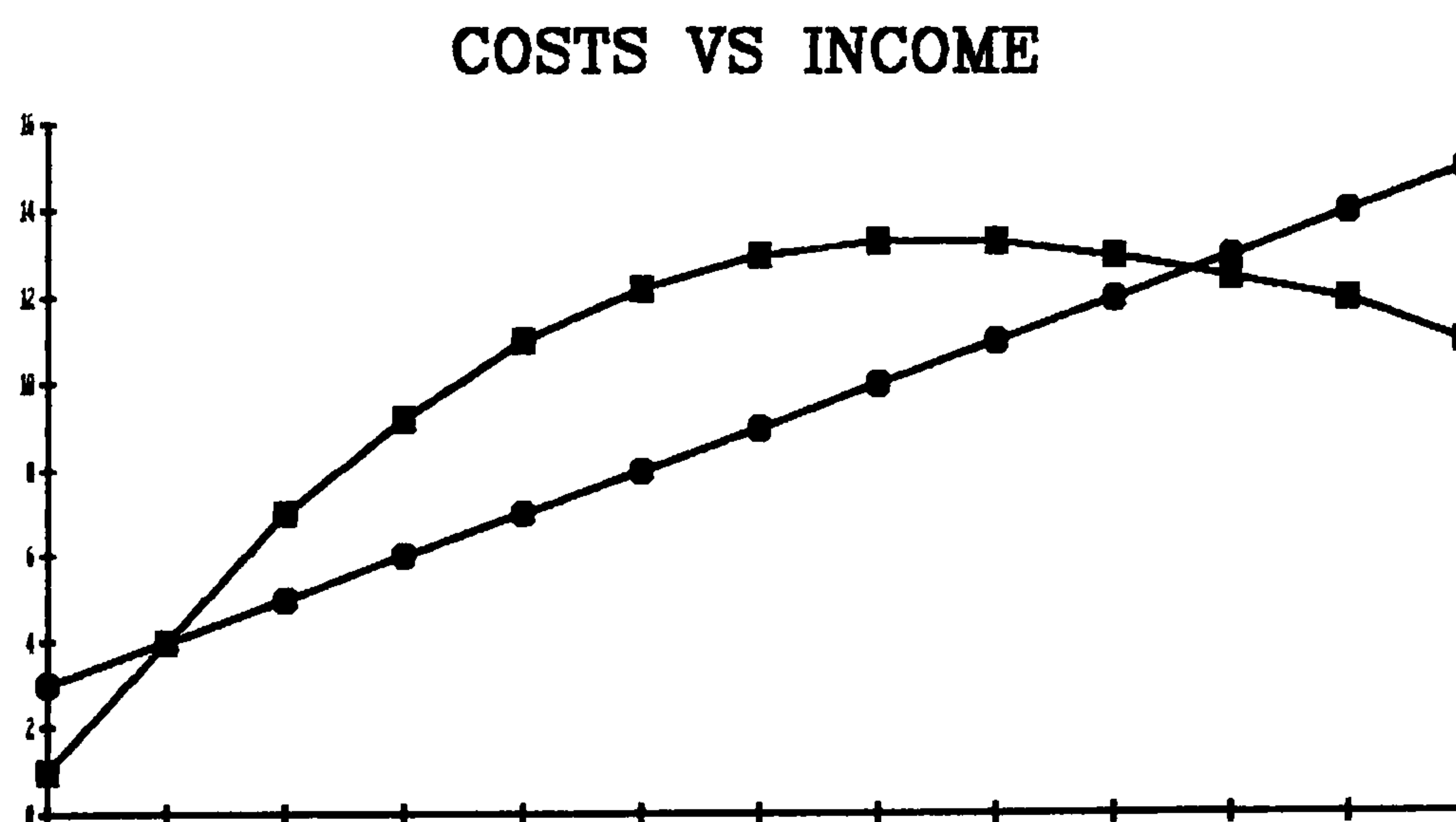
As is apparent from the above, the debate on this question was posed in terms of the indicator(s) to be used as a measure of differentiation. Zemstvo statisticians had used 'natural' indicators as a measure of differentiation, for example farm size, sown area, or number of working animals owned. Lenin had utilised this material in his *Development of Capitalism in Russia* of 1899. Kritsman argued that such natural indicators were indirect indicators, and a more realistic assessment could be made if qualitative indicators such as hired labour and type of production were used. Nemchinov also argued that qualitative indicators were superior, and in his study of the Urals peasantry he used the hire and sale of labour power, rent, lease of animals, stock and land, and credit transactions involving money and seed as measures.

One feature of this work on rural differentiation is the marked absence of the market in its general sense or as a mechanism. Kondrat'ev's view that the market is a precondition for differentiation is not mentioned. Although specific markets such as the labour market are mentioned, there is no mention of the market as a mechanism through which the law of value operates, or through which production priorities are determined. It is not absolutely clear why this is so.⁶⁸ The question of the

cause(s) of differentiation was not explicitly raised in these studies either.

7.7 - POPULATION AND THE MARKET

An interesting note on the ability of the market occurs in Chayanov's *Ocherki po ekonomike trudovogo sel'skogo khozyaistvo* of 1924. In a section on economic geography he asks the question: what is determined by the market? He answers that the market conjuncture of a market system exclusively determines the development of the population density (*naselennost'*) of a country.⁶⁹ He also notes that in a given market conjuncture expressed in a system of prices, for each farm coming from its spatial position in relation to markets, soil, and climatic conditions, there will be an optimal level of intensity of farm production. By optimal intensity Chayanov understands that level in which, given prices for agricultural products and means of production, the difference between costs and income will be highest. He shows this graphically as follows:



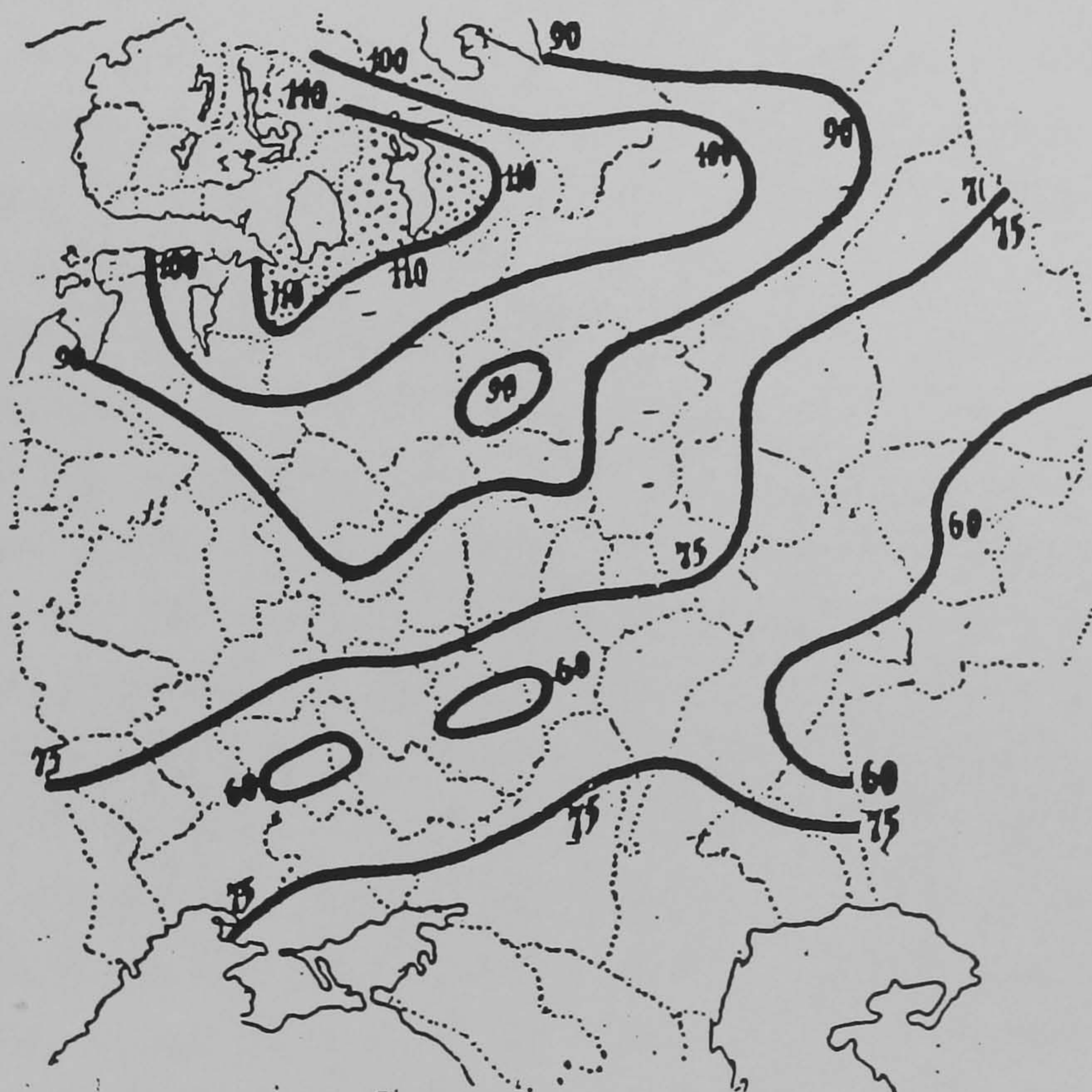
In this diagram the curved line represents the value of crops with respect to output, and the straight line the value of factors with respect to output. The optimum will occur when the difference between the two is greatest.⁷⁰ Such a manner of

presenting this argument clearly corresponds to the modern form, in which profit maximisation occurs when the (vertical) distance between the total revenue and the total cost curves are maximised, although Chayanov does not go on to derive marginal revenue and cost curves. Chayanov concludes that:

Capitalistically organised farms under all degrees of population density...will always strive for the optimal level of intensity, because under a given market conjuncture only optimal intensity gives the highest pure income per unit of ground...⁷¹

Thus Chayanov is clearly arguing that the profit maximisation principle in a pure capitalist system leads to production being taken to optimal levels. Such an argument is not Marxist in spirit.

In this work Chayanov adopts an original method of presenting price data for given regions, which he calls an iso-price chart, and an example is shown as follows:



Средние изс-цены ржи 1909—1913 года.

The use of this method shows that price levels were not unified throughout a given region, and thus that one of the key characteristics of markets - uniformity of price - was absent during this time. However, this may be an error in simplistic accounts of markets, since transportation costs to different

, regions should add a tiered level of costs to uniform prices of goods.

It is worth noting that Kritsman, in his short preface to this work, argues that Chayanov's theory is based upon psychological and physiological foundations which do not fit with Marxist theory. Optimisation when profits are maximised only makes sense for optimisation of satisfaction of human need if markets correctly represent human wants, which are psychological in nature. Thus Kritsman seems to be saying that Chayanov does assume this.⁷² If this is the case, then Chayanov clearly falls into the mainstream of neo-classical economic thought.

An interesting discussion of differentiation by Chayanov occurs in an article entitled 'O differentsiatsii krest'yanskogo khozyaistva', published in *Puti sel'skogo khozyaistvo* in 1927. In this article Chayanov is concerned to distinguish between types of differentiation, and he lists four types as follows. At the end of the nineteenth century differentiation was understood as a process parallel with the concentration of production and industry, ie the struggle of large, medium, and small enterprises in conditions of increasing superiority of large-scale enterprises.⁷³ The fading away of medium and small enterprises and their proletarianisation - this is the process understood by the classical understanding of differentiation. Another type of differentiation is the differentiation of the agricultural population as elements of it split off to form the trading population. A third type is linked to agrarian repopulation in conditions of the family *obshchina*, since this creates conditions for the development of bond forms of exploitation, and there is also differentiation in terms of the development of the division of labour.⁷⁴ However, Chayanov notes that in current times most attention should be given to the first type of differentiation, ie the restructuring of family labour farms into American large-scale farmer-type farms which employ hired labour.⁷⁵

Another interesting point in this article is Chayanov's use of the market to explain population dynamics in a capitalist system. According to Chayanov the iso-price chart determines the distribution of agricultural types and thus the quantity of agricultural labour required in a given area. In a capitalist

, economy the market determines where the price of labour is highest and thus creates conditions for the movement of labour to such areas. It also determines where commodity prices are highest. Consequently there should be a coordination of the highest prices on an iso-price chart and the density of population.⁷⁶ However, this is not the case in the USSR. The highest bread prices are in the Baltic states, the Black Sea region, and the Moscow industrial regions, and the lowest prices are in Siberia. It would be correct to assume, according to Chayanov, that population density, if it was distributed under commodity economy, would be coordinated with the highest iso-prices. However, the most condensed population actually occurs in a region of low iso-prices, and this discrepancy is basic to the history of the Russian/Soviet economy.⁷⁷

Thus according to this argument the market cannot be fully developed in the Soviet Union. If correlation of population density with price is a feature of a market system, as Chayanov claims, and this correlation is absent from the USSR, the conclusion must follow that the market is also absent, unless another reason can be given for the non-correlation. Chayanov does not provide such an alternative explanation, and so the only conclusion is that Chayanov believed that the absence of the market explained this discrepancy.

7.8 - CONCLUSION

It is apparent that Chayanov held a fairly orthodox neo-classical conception of market mechanics, but simultaneously shared some socialist doubts about the morality of the market. Thus he resented the universalisation of historically specific capitalist categories such as the labour market. However, he did not conflate the market with capitalism, rather he conceived of markets existing within non-capitalist social formations.

In the period of War Communism Chayanov contrasted capitalist and socialist forms of economy in a stark manner, and found parallels between natural and socialist economic forms. During NEP Chayanov analysed the 'place' conception of the market in some detail, and distinguished between diverse market structures. He believed that cooperative forms of trade could compete with and even replace private trade by studying market structure and by organising cooperatives along similar lines to private trading firms. However, the idea of the market as the carrier of the law of value was not discussed by him, in fact he never used the phrase 'law of value' at all. This may show that he did not believe that this Marxist conception of the market was of any practical use.

The debates on differentiation reveal that there were two views as to what markets were required for capitalism to exist. Some thought that the labour market was necessary, others that the market for agricultural machinery and livestock was essential. This correlates with Chayanov's view that markets can exist outside of capitalism. Chayanov's use of 'iso-price' charts as a way of showing market area was highly original, and he used this method to demonstrate that the correlation of population density and price which was characteristic of capitalism was absent in the Soviet Union. This implies that Chayanov believed that the USSR was developing non-capitalistically.

NOTES

- 1 Chayanov, 'On the Theory of Non-Capitalist Economic Systems', translated in Thorner, Kerblay, and Smith ed., *The Theory of Peasant Economy* (American Economic Association, 1966), p.3. This article originally appeared as 'Zur Frage einer Theorie der nichtkapitalistischen Wirtschaftssysteme' in *Archiv fur Sozialwissenschaft und Sozialpolitik*, vol.51, p.577-613.
- 2 Ibid, p.7.
- 3 Ibid, p.6.
- 4 Ibid, p.8. From the viewpoint of neo-classical economic theory it would be possible to say that this is empirically true, but reveals the non-optimal use of resources endemic to non-capitalist forms of production.
- 5 Ibid, p.7.
- 6 Ibid, p.9.
- 7 Ibid, p.28.
- 8 Ibid, p.12.
- 9 Ibid, p.16.
- 10 Ibid, p.23.
- 11 This is a point worth speculating on. How would curves for the entire population be obtained? One way would be to regularly send questionnaires to the population, asking them to indicate which labour-consumption balance they prefer in a series of incremental steps, and then to aggregate and disaggregate this information as and when required. Constant updating of this material would be required, as subjective desires are liable to swift and repeated change. However, a major problem presents itself with this method. What guarantee is there that the aggregated labour-consumption balance for the population would meet the basic requirements of each individual? Allowing production levels to be determined by statistical manipulation of subjective desires does not ensure that needs are met.
- 12 Ibid, p.24.
- 13 Ibid, p.21.
- 14 Chayanov, 'The Organisation of Peasant Farms', translated in *The Theory of Peasant Economy*, p.33/5.
- 15 Ibid, p.36.
- 16 Ibid, p.49. Chayanov does not explicitly mention this, but presumably it could also be drawn into a socialist system.
- 17 Ibid, p.258.
- 18 Ibid, p.260.
- 19 Ibid, p.261.
- 20 Chayanov, *The Theory of Peasant Cooperatives* (London: Tauris, 1991), trans. D.W. Benn, p.108.
- 21 Ibid, p.112/3.
- 22 Ibid, p.116.
- 23 Ibid, p.132.
- 24 Ibid, p.135.
- 25 Chayanov, 'The Organisation of Peasant Farms', translated in *The Theory of Peasant Economy*, p.81/2.
- 26 Ibid, p.120/1.
- 27 The 'agrarian-Marxists' had criticised the 'organisation-production' school (of whom Chayanov was a member) for not giving the market a major role in determining the activity of the family farm. See S. Solomon, *The Soviet Agrarian Debate*

- (Westview, 1977), p.55. A.N. Chelintsev, also a member of the 'organisation-production' school, argued that the climate and the soil quality rather than the market determined the type and quality of goods offered for sale by a family farm.
- 28 Chayanov, 'The Organisation of Peasant Farms', translated in *The Theory of Peasant Economy*, p.121.
- 29 Ibid, p.124.
- 30 Ibid, p.125.
- 31 Ibid, p.138.
- 32 Ibid, p.58.
- 33 Ibid, p.60.
- 34 Ibid, p.41.
- 35 It follows from this logic that the existence of markets in a socialist system would not necessarily cause economic subjects to behave in a capitalist fashion.
- 36 Chayanov, *Oeuvres Choisies de A.V. Cajanov*, (Mouton & Co., 1967), vol.6, p.13.
- 37 Chayanov, *Oeuvres Choisies de A.V. Cajanov*, vol.3, p.39.
- 38 Ibid, p.41.
- 39 Ibid, p.42.
- 40 Ibid, p.43.
- 41 Ibid, p.44.
- 42 Ibid, p.45.
- 43 Ibid, p.46.
- 44 Ibid, p.44.
- 45 Ibid, p.52.
- 46 Chayanov, *Metody bezdenezhnogo ucheta khozyaistvennikh predpriyatii* (Moscow, 1920), p.8.
- 47 Ibid, p.13.
- 48 Ibid, p.31.
- 49 Ibid, p.32.
- 50 Ibid, p.30.
- 51 Ibid, p.60.
- 52 Ibid, p.44.
- 53 Ibid, p.45.
- 54 Chayanov, *Oeuvres Choisies de A.V. Cajanov*, vol.7, p.300.
- 55 Ibid, p.301.
- 56 Ibid, p.302.
- 57 Ibid, p.303.
- 58 Ibid, p.305.
- 59 Ibid, p.306/7.
- 60 Ibid, p.307.
- 61 Ibid, p.308.
- 62 Ibid, p.314.
- 63 L.N. Kritsman, 'Class Stratification of the Soviet Countryside', translated in *Journal of Peasant Studies*, vol.11 no.2, January 1984, p.139.
- 64 Ibid, p.140.
- 65 Ibid, p.141.
- 66 Chayanov, *Oeuvres Choisies de A.V. Cajanov*, vol.7, p.318.
- 67 Ibid, p.321.
- 68 One reason might be as follows. Kritsman's work on rural differentiation involved detailed empirical study of large amounts of numerical and other types of data, and it was not immediately apparent how this empirical data fitted with Marxist categories such as the law of value, or with 'capitalist' and 'proletarian', since it was precisely this problem that the whole debate about measuring differentiation

was about. Thus it was even less clear how to connect the abstract form of 'the market' to all this data, or the law of value as a fundamental regulator.

- 69 Chayanov, *Oeuvres Choisies de A.V. Cajanov*, vol.4, p.147.
- 70 Ibid, p.148.
- 71 Ibid, p.148.
- 72 Ibid, p.17.
- 73 Chayanov, 'O differentsiatsii krest'yanskogo khozyaistva', in *Izbrannie trudy* (Moscow, 1989), p.145.
- 74 Ibid, p.149.
- 75 Ibid, p.159.
- 76 Ibid, p.146.
- 77 Ibid, p.147.

8.1 - INTRODUCTION

One of the most detailed analyses of 'bourgeois' political economy to emerge from NEP was entitled *Sub'yektivnaya shkola v politicheskoi ekonomii* by I.G. Blyumin and was published fully in 1928, although parts of this work appeared in *VKA* in 1927.¹ It appeared first in book form in two parts in 1928, then was reprinted in 1931, and formed part of a three volume collection published after the author's death in 1962. I have checked the latter reprint for alterations, and since I discovered none all references are to the 1962 edition.

Izrail' Grigor'evich Blyumin (1897-1959) served in the Red Army from 1919 to 1921, and graduated from Moscow university in 1924. His life's work was a critique of all forms of 'bourgeois' political economy, including after WWII Keynesianism and theories of economic growth.² Later works included *Kritika sovremennoi burzhuaznoi politicheskoi ekonomii Anglii* of 1953 and *Ocherki ekonomicheskoi mysli v Rossii v pervoi polovine XIX veka* of 1940. Professor Blyumin taught in the economics faculty of Moscow State University, and his lectures given between 1951-1955 were published in 1961 under the title *Istoriya ekonomicheskikh uchenii*.

Sub'yektivnaya shkola is truly heroic in scope and intention. It attempts a critical survey of virtually all the important neo-classical economists whose work had been published from 1870 to the 1920s, including Walras, Jevons, Marshall, Cournot, Gossen, Cassel, Pareto, Bohm-Bawerk, Clark, Menger, Pigou, Schumpeter, as well as showing knowledge of lesser theorists such as Wieser, Barone, Wicksell, Bailey, Edgeworth, Mitchell, Gonnard, and Bortkevitch. Blyumin himself survived the 1930s and went on to write other economic works, including a continuation of this work. Blyumin is of course fundamentally critical of the neo-classical economics which he surveys. However, his criticisms are not without some merit, and he attempts to place the development of 'bourgeois' economics after J.S. Mill into a theoretical framework which has at least historical interest. Thus in this chapter I

will survey and discuss elements of Blyumin's work which relate to the market and market economics.

8.2 - A GENERAL ANALYSIS OF SUBJECTIVISM

Blyumin begins by stating that the subjective school of political economy is a variety of the vulgar political economy discussed by Marx, an economy which is apologetic in nature and which seeks to analyse only the surface of capitalist society. Historically Blyumin notes that as the contradictions of capitalism grew, political economy became more and more apologetic in nature.³ Blyumin outlines the following difference between the 'old' and the 'new' subjectivists. While it was possible to find in the old subjectivists a split between the theory of supply and demand and the theory of costs, the new subjectivists attempt to overcome this divergence by arguing that the law of costs of production represents only a part of a more universal law of supply and demand.⁴ Blyumin argues that the subjective school is based on four ideas: 1) static analysis, ie analysis where population, needs, and technique remain constant; 2) the scarcity (*redkost'*) of elementary productive goods; 3) the supply-demand function; and 4) the imputation of value into finished goods by factors participating in their production on the basis of marginal productivity.⁵

Blyumin divides the representatives of the subjective school into various currents. The basic division is as follows:

AUSTRIAN SCHOOL	MATHEMATICAL SCHOOL	ANGLO-AMERICAN SCHOOL
Menger	Walras	Marshall
Wieser	Jevons	Clark
Bohm-Bawerk		
	Pareto	Pigou
Mises	Barone	
	Wicksell	
	Schumpeter	
	Cassel	
	Fisher	

According to Blyumin at the end of the nineteenth century and the beginning of the twentieth the Austrian school had established

itself as the most influential economic school in German universities. However, its influence was significantly less in Roman and Anglo-Saxon countries where it competed with the mathematical and Anglo-American schools. After WWI the influence of the Austrian school generally began to decline. Blyumin states that Walras is the founder of the mathematical school and Marshall the founder of the Anglo-American school. The greatest follower of Walras is Pareto, who came to the conclusion that price theory can be based on indifference functions. The most well-known follower of Marshall in England is Pigou, who attempted to elaborate a theory of cycles.⁶

Blyumin then proceeds to analyse the basic general features of these schools. Only the Austrian school can be called a subjective school in the full meaning of the word, since they base all economic categories on a single subjective factor - marginal utility. The mathematical and Anglo-American schools view subjective and objective factors as equal, and hence their approach can be called dualistic. In relation to the historical development of economic thought Blyumin argues that in the first half of the nineteenth century (approximately until 1870) there existed a sharp split in bourgeois political economy. In England the objective theory of value dominated in the form of either the labour theory or the costs of production theory, whereas on the continent the subjective theory in the form of marginal utility or supply and demand dominated. According to Blyumin this difference reflected the differing conditions of economic development. In England a fast and dynamic capitalism which ousted old forms of economy at speed, whereas on the continent a much slower development leaving a still not insubstantial influence of natural economy.⁷ After 1870 a tendency to create a single theoretical conception came into being, thus allowing use of the general term 'subjective school'.

The theoretical roots of the subjective school are found in the motivations of individual subjects. According to subjectivists it is the psychological desires of the various participants in the economy which determine the social order, and not visa versa. Blyumin clearly believes in exactly the opposite point of view. He notes that the mathematical school has the greatest theoretical

interest, since it is an intermediate school transitional from Austrians to Anglo-Americans. The mathematicians actually show that the conclusions of the Austrians are mistaken from within their own point of view. While the Austrians view the demand for each good in isolation, the mathematicians examine the interrelation of the demand for many goods, and argue that the demand for a single good can only be adequately explained through this method.⁸

A key element of Blyumin's analysis of the subjective school is the difference which he sees between causal and functional analysis. According to the mathematical and Anglo-American schools the attempt to construct a single final basis for price is a chimera based on ignorance. In reality there exists only the interrelation of autonomous factors which influence one another independently. Thus causal dependence between economic phenomena in which one factor is said to be the primary cause of another is replaced by functional dependence in which various equally important phenomena interact, thus continuously changing each other.⁹ Mathematically this latter type of reasoning is represented by a function of the type $f(x,y,z)$, and thus the replacement of causal analysis by functional is aided by the use of mathematics. Pareto was especially adamant about the use of functional reasoning, and even criticised Walras for trying to view marginal utility as the cause of price. Blyumin notes that this argument is supported by the 'Russian bourgeois economist' Yurovskii.¹⁰

Blyumin then proceeds by differentiating between two senses of the idea of maximum utility: relative and absolute. Assume a definite price structure exists on markets. Buyers respond by constructing a definite consumption plan which attempts to obtain maximum utility from the purchasing power available. However, this maximum is dependent on the price structure, and changes if this structure changes. Hence such a maximum is only relative. Assume now that a definite supply of goods exists at the disposal of society, which attempts to distribute these goods between members so as to obtain the greatest total utility. This maximum would not depend on price, and hence it can be called absolute.¹¹ Blyumin argues that the mathematicians confuse these two understandings,

for example Gossen considers that prices are established at a level in which total utility is maximised. Jevons and Walras also attempt to show that utility is maximised under free competition.

Blyumin points out that for capitalism to be a rational organisation of production maximum utility cannot be dependent on the price level, rather it must determine it. According to Blyumin this leads to a dualism in the mathematical school. On the one hand they use a theory of supply and demand to explain prices, on the other they try to show that maximum utility determines the price structure. Blyumin implies that these two approaches are contradictory.¹² Furthermore, arguing that maximum utility is achieved by capitalism implies that the market has been substituted by organised distribution, which in fact is incompatible with capitalist production. Thus for Blyumin arguments which attempt to show capitalism to be optimal grate with his theoretical idea of how capitalism functions, ie spontaneously. For him this must mean that such optimality arguments are false.

Turning to the Austrians, Blyumin analyses the regulating role of the marginal unit. Suppose the utility of a given goods determines the upper limit on price fluctuation. If the utility of the nth unit equals a, and utility falls with increasing supply, then the price of every good (assuming integrated markets) cannot be higher than a. If the price exceeded a then the marginal unit would not be purchased.¹³ Hence Blyumin clearly understands the regulating role of marginal utility in Austrian theory. After analysing the general basis of the subjectivists, Blyumin turns to each one of them in turn. I shall begin with Cournot as he is chronologically the earliest.

8.3 - COURNOT

In *Vestnik kommunisticheskoi akademii* in 1927 there appeared a long two-part article by Blyumin called 'Teorii Kurno', which analysed the economic theory of Cournot in relation to the mathematical school of Walras, Jevons etc, and in relation to the Russian mathematical economist V.K. Dmitriev. This article is interesting for what it reveals about conceptions of market

mechanics in relation to conditions of both free competition and monopoly, and it was later published as part of Blyumin's *Sub'yektivnaya shkola*. Cournot was one of the first economists to use mathematical methods for the study of monopoly, and to try to determine how prices are formed in this particular economic form. Blyumin's article is both a presentation of Cournot's theory and a criticism of it from a Marxist perspective.

Blyumin begins by attempting to differentiate Cournot from later members of the mathematical school like Walras and Jevons. This he does by arguing that Cournot places great emphasis on exchange value, the totality of exchange values being the wealth of a society.¹⁴ Cournot shows that the movement of use and exchange value can be in opposite directions, and thus the process of increasing utility can occur simultaneously with the process of declining exchange value. However, after this brief attempt to give Cournot some credibility in Marxist eyes, Blyumin turns straight to the details of Cournot's theory of monopoly.

Blyumin relates that Cournot begins his analysis with the law of demand - demand increases when price declines - expressed as $D = F(p)$.¹⁵ Cournot's system (expressed in a series of formulae) is related to various different economic conditions - full monopoly, limited monopoly, and free competition. Blyumin notes that for Cournot the key to elucidating all the laws of the market mechanism can be found in conditions of full monopoly. Qualitative differences in economic systems (ie monopoly and competition) can be reduced to quantitative differences in the expression of one or other of these laws. According to Blyumin this central notion of Cournot's is the source of all his mistakes.¹⁶

Cournot begins with the case of monopoly, which in the simplest case is where the production of goods is totally in the hands of one unit. Blyumin notes that Walras had begun his analysis from the opposite end of the scale, ie with pure competition, but he claims that Walras exaggerates the difference between himself and Cournot. Blyumin argues that in fact the difference between Walras and Cournot was not that the former began with competition, but that he began with natural monopoly as opposed to Cournot's artificial monopoly. This stems from Cournot's narrow understanding of the term 'monopoly', which he

identifies with artificial monopoly. Blyumin is also concerned to demonstrate at this point that Cournot stressed the incommensurability of the utilities of individual goods. How can the happiness of an Alpine herd be compared to that of a Manchester worker? This is another area in which Cournot differs from other economists such as the Austrian school.¹⁷

In relation to the law of demand Cournot stresses that if 100 units of a good sell for 20 francs each, there is no basis to conclude that 200 units will sell for 10 francs. The proposition of the proportional dependence between changes in demand and in price is based on an absolutely arbitrary presupposition that the total sum of money spent on the purchase of any single good is constant. The graphical representation of this as a straight line is equally incorrect. According to Blyumin Cournot is absolutely correct to assert the idea that the rate of change in demand and price are not necessarily identical. Cournot distinguishes between two types of good in this respect, the first of which satisfy consumer necessities, the second are luxury goods. In the second group Cournot puts tea, sugar etc, and for this group it is generally the case that actual demand changes at a faster rate than a simple inverse proportionality to price would suggest. In the first group (necessities) changes in demand are slower than a simple inverse proportionality. Blyumin notes that in this way Cournot had engendered the theory of elasticity of demand (*elastichnosti sprosa*), which has undergone a detailed development by Marshall. Cournot also gives cases in which a price reduction can reduce demand, for instance diamonds. If new techniques allowed diamonds to be crystalised from carbon at low cost, then since they fulfil mainly a decorative function demand for them may well decline. But Cournot considers such a case exceptional, as in general demand increases when the price falls.¹⁸

Blyumin then turns to the form of functional analysis used by Cournot, $D = ap$. He emphasises that given such a function it is not possible to speak of the nature of the causal dependence between a and p , ie it is not possible to specify the cause of the change, D or p . This type of formula allows only the establishment of a quantitative relation between D and p , ie if one of the variables is given then the other may be calculated. The

difference between dependent and independent variable is very important, but this judgement cannot be made using functional analysis alone. $D = F(p)$ can be written $p = F(D)$, but this transformation may not be justified by the actual workings of the phenomenon in question.

Blyumin then turns to the substance of Cournot's analysis. The first case which Cournot examines is a monopolist who has no costs of production, for example the owner of a source of mineral water. The owner can influence price by regulating supply. Since it is in the interests of the owner to obtain maximum income (quantity sold multiplied by price), he will want to find that amount of supply (and hence the price) which yields this maximum. To determine the price which the owner desires it is necessary to differentiate the expression $pF(p)$ and set the first derivative equal to zero. Then the price can be determined on the basis of the equation:

$$F(p) + pF'(p) = 0 \quad (1)$$

This expression will be correct if the given function has a maximum, ie if the second derivative is negative. In other words $2F'(p) + pF''(p) < 0$ must apply. Thus not all price increases are profitable for the monopolist, because in increasing the price p to $p + dp$ demand falls from D to $D - dD$. The profitability or otherwise of a price increase depends on the relations $dD/dp < D/p$ or $dD/dp > D/p$.¹⁹ In the first case it will be profitable to increase the price, in the second case not. Graphically this can be presented in the usual form of a curve. One axis represents the price, the other axis demand. To obtain the maxima the point is found on the demand curve where the abscissa and the ordinate are greatest. According to Blyumin formula number one above is of great theoretical interest, since it facilitates the determination of the price of a monopoly product, according to the equation given below:

$$p = F(p)/-F'(p)$$

In other words the price of such a good is exclusively dependent on the demand function.²⁰

After presenting this analysis by Cournot, Blyumin then turns to some points of criticism. Although Cournot begins with the case of full monopoly, this cannot be called an absolute monopoly, since it is a monopoly in relation to one good only. Competition between different spheres of production is not ruled out, some type of market competition may occur, and it is therefore a mixed regime. According to Blyumin an absolute monopoly would only exist if all production was monopolised by one monopolist (individual or collective) who owned all the means of production. Absolute monopoly supposes the total elimination of competition between different spheres of production and different national economies. It also requires that aggregate demand be equal to total wages, therefore making aggregate demand a fixed quantity, and that money plays the role of a coupon with which workers receive products from the monopolist. The latter would calculate the needs of its workers with a production plan, and this task is in fact concomitant with the creation of a socialist society.²¹

In this fashion Blyumin links monopoly with socialism. He conceives of a socialist system as being controlled by a single supermonopolist, who calculates the requirements of workers and who plans production to fulfil these requirements. However, he stresses that his notion of absolute monopoly does not correspond with Cournot's analysis of full monopoly. According to Blyumin the cardinal mistake of Cournot is that he places his system of monopoly on the same footing as his system of competition. Blyumin stresses that monopoly differs fundamentally from commodity economy, since it represents not anarchy but organisation. Hence formula one above will not be applicable to absolute monopoly as conceived by Blyumin.

Blyumin then points out that if the case of limited rather than absolute monopoly is taken, then formula one needs modification. Demand for a given good depends not only on the price of this good, but on the prices of a whole series of goods:

$$D_a = F_a (p_a, p_b, p_c, \dots)$$

Thus demand could change even if p_a remains constant. It is sufficient that another good plays an important part in the budget of a significant part of the population, and that its price is altered.²² This criticism was probably taken by Blyumin from Walras, as Walras's system stresses this point often. If this modification is made, it is clear that a particular monopolist will have less influence over his income than suggested by Cournot, since price changes of goods not manufactured by the monopolist are outside his sphere of influence. According to Blyumin this limits the rationality principle within monopoly.

Blyumin is also keen to point out that Cournot significantly overestimates the possibility of the type of monopolist which he describes rationally influencing market processes. Moreover bourgeois economists who speak of the possibility of the removal of crises by creating powerful capitalist organisations which lead the economy underestimate the role and significance of spontaneous processes. Cournot's error in this respect leads him to incorrectly represent the psychology of the monopolist. According to Blyumin Cournot presents the monopolist as outlining a production plan in conditions where all relevant data and conditions are known, including the demand function, and thus all that is necessary is to determine the optimal price. In fact, argues Blyumin, in reality there are many unknowns, including the demand curve for the goods of the monopolist which is liable to be capricious and unstable.²³ Thus Blyumin argues that Cournot's formulae for determining prices in specific economic conditions are unusable, as relevant data for input cannot be accurately found. Another argument which Blyumin brings against Cournot, this time a technical economic argument, is that some goods in the same sphere of production compete with each other as they satisfy the same requirement (eg coal and oil), and thus price increases for one such good can lead to it being replaced on a major scale by a competing good. Where this argument applies, the possibility of monopolistic price regulation is within narrower limits than suggested by Cournot.

Blyumin then moves on to examine Cournot's analysis of cases where costs of production are not zero. In this case the maximum price is not related to $pF(p)$, but to $pF(p) - Y(D)$, where $Y(D)$

signifies costs required for the production of D units. In this case it is necessary to find the first derivative of the latter formula and set it equal to zero:

$$D + [dD/dp][p - dY(D)/dD] = 0 \quad (2)$$

Blyumin points out, however, that $Y(D)$ is a quantity which depends on the prices of raw material goods and labour power, and therefore the formula $pF(p) - Y(D)$ includes many prices and hence many unknowns. Blyumin concludes that this formula is therefore indeterminate.²⁴ In his *Elements* Walras gives the following scheme illustrating Cournot's formula:

PRICE OF ONE UNIT p	DEMAND D	GROSS INCOME pD	COSTS (2 francs per unit) Y(D)	PURE INCOME pD - Y(D)
100	0	0	0	0
50	10	500	20	480
20	50	1000	100	900
5	1000	5000	2000	3000
3	2500	7000	5000	2500
2	5000	10000	10000	0
1	12000	12000	24000	-12000
0.5	20000	10000	40000	-30000
0	50000	-	100000	-100000

If costs of production are excluded, the optimal price will be one franc per unit, since this price maximises pD. However, if costs of production are included, five francs will be the optimal price, since this price maximises pD - Y(D). However, this only applies to monopoly. With free competition the price will be established at two francs, ie it must equal costs of production. Thus the monopoly system limits supply to 1000 units, thereby increasing the price and pure income.²⁵

Blyumin then moves on to discuss the question whether formula one applies to the monopoly of means of production. According to Blyumin the answer to this question depends on the nature of the functional dependence between price changes for means of production and finished products. Two cases apply. In the first increased prices for means of production are reflected in the prices of finished goods, in the second they are not. In the first case a means of production price change must provoke a change in demand for finished goods, and therefore alter demand for means of

production. In the second case the means of production price increase is absorbed by producers of finished goods, an act which lowers their average profit rate but does not necessarily influence demand. However, it may cause producers of finished goods to alter their production methods, and in this way to influence demand for means of production.²⁶

Blyumin is concerned to apply Cournot's formulae to goods with different elasticities of demand, and thus to show the limitations of these constructions. In the field of production of means of consumption which are necessities, there is a definite limit to monopolistic price control. According to Blyumin increasing prices for necessities leads only to increases in wages, as workers refuse to suffer reduced living standards in this respect. This logic applies to highly inelastic demand for goods and thus Cournot's formulae should be modified to take account of this. Blyumin argues that formula one is most relevant where demand is highly elastic, ie luxury goods and non-necessities. Price changes for these goods are unlikely to provoke changes in wage levels, but are likely to provoke changes in demand. Therefore the search for a maximum in relation to price and demand here is very relevant. Thus an error which Cournot makes is to universally apply a formula which is relevant to one type of good only, goods with high elasticities of demand.²⁷

Blyumin gives a summary of the criticisms of Cournot which he is offering in relation to monopoly as follows. Firstly he overestimates the possibility of prediction and planning by the monopolist; secondly he assumes that demand depends on the price of the good in question only, whereas in fact the prices of many goods may influence this demand; thirdly he applies a formula applicable to goods with high demand elasticities to goods with all types of demand elasticities.²⁸ These criticisms are quite revealing. Two out of the three are purely technical economic criticisms which could be made from a purely neo-classical viewpoint. Only the first criticism could be seen in any way linked to a Marxist framework, although it is conceivable that a non-Marxist economist could advance this argument. Thus while Blyumin is keen to criticise Cournot, he seems less keen to use Marx or Lenin to accomplish this task.

Blyumin then moves on to analyse costs of production $Y(D)$ in more detail. Cournot views costs as a function of the quantity of produced goods, and as a general formulation this position is correct. With an increasing quantity of production (given unchanging technical conditions) costs of production grow. However, the cost function can have a different character, and therefore the derivative of this function $Y'(D)$ can obey various laws. It is generally the case that $Y'(D)$ must be positive, because it would be absurd to propose that absolute costs fall as production increases. It is known also that it is inevitable that $p > dY(D)/dD$, since dD is an increase in production, $dY(D)$ an increase in costs, and $pd(D)$ an increase in gross income, and producers always stop if the increase in outlay exceeds the increase in income as regards further production. However, this derivative $Y'(D) = dY(D)/dD$ can increase or decrease with increasing production, in other words the second derivative $Y''(D)$ can be positive or negative. Thus relative costs usually decline with increasing production, or with increasing D , $Y'(D)$ will decline. Cournot also analyses cases where costs are constant relative to production. This can be represented by the formula $D + (dD/dp)(p - g) = 0$, where g represents a constant $Y'(D)$. When costs remain unaltered over different production levels, $D + (dD/dp)p$ holds.²⁹ Blyumin notes that these cases coordinate with various laws of productivity change: declining $Y'(D)$ with the law of increasing productivity, increasing $Y'(D)$ with the law of declining productivity, and constant $Y'(D)$ with the law of constant productivity.

Having established basic formulae for monopoly, Cournot then moves onto the case of limited competition, ie where 2, 3, ... n competitors exist, and here the first case to be examined is two competitors. They both produce goods of identical quality and supply the same market, prices are identical, and $D_1 + D_2 = D$. Ignoring costs of production, income is expressed through pD_1 and pD_2 , and both competitors will attempt to increase this income. Instead of the function $D = F(p)$, Cournot uses $p = F(D)$, hence $p = F(D_1 + D_2)$, and the income of the competitors will be $D_n F(D_1 + D_2)$. A price change in this case occurs because of a change in supply, and here is the essential difference from the case of

monopoly. An entrepreneur in this case can only influence supply on part of the market. Cournot assumes that every entrepreneur considers his competitors supply at a given moment to be constant, and the task of each entrepreneur is to calculate an optimal price under this constant supply from the competition. Analytically this task leads to differentiating $D_n F(D_1 + D_2)$, which gives:

$$F(D_1 + D_2) + D_n F'(D_1 + D_2) = 0$$

If it is supposed for simplicity that $D_1 = D_2$, then $F(D) + D_n F'(D) = 0$ is obtained. Combining the derived expressions for D_1 and D_2 gives $2F(D) + DF'(D)$, which can be rearranged to give:

$$D + 2p(dD/dp) = 0$$

This equation shows the maximum profit which can be extracted by competitors together, under the assumption that each considers the others supply constant.³⁰

On the basis of this equation the quantity p can be established as follows:

$$p = F(p)/-2F'(p)$$

If this is compared to the price in the monopolist case $p = F(p)/-F'(p)$, it is clear that because there are now two entrepreneurs competing on the market, the price of the good in question has fallen by half. This means also that the profit level would be correspondingly lower. In fact for cases with 3, 4, 5, ..., n competitors, the general equation is:

$$D + np(dD/dp) = 0 \quad (3)$$

This is the basic equation for the case of limited competition without costs of production. Having established this formula, Cournot moves on to include costs of production. Costs are represented by $Y_1(D_1)$, $Y_2(D_2)$, ..., $Y_n(D_n)$, and the following set of equations are obtained:

$$\begin{aligned} F(D) + D_1 F'(D) - Y_1(D_1) &= 0 \\ F(D) + D_2 F'(D) - Y_2(D_2) &= 0 \\ F(D) + D_n F'(D) - Y_n(D_n) &= 0 \end{aligned}$$

On combining all these equations the following expression is obtained:

$$D + (dD/dp)[np - SY_n'(D_n)] = 0 \quad (4)$$

This formula gives the most general expression for maximum profit in the case of limited competition with costs of production greater than zero. If this formula is compared with the corresponding formula for monopoly, two differences are found: firstly n (the number of competitors), which causes a reduction in price, is absent from the monopoly case, and secondly costs of production equal $SY_n'(D_n)$ as opposed to $Y'(D)$. According to Cournot these differences act in contradictory directions.³¹

Cournot argues that not only is the sum of competitors costs $Y_n'(D_n)$ greater than the monopolists costs $Y'(D)$, but that also the average competitors cost is greater than $Y'(D)$, ie the inequality $[SY_n'(D_n)]/n > Y'(D)$ applies. Cournot makes the following argument concerning lower costs of production for monopoly. Owners of monopoly will prefer to exploit sources which demand less outlay than competitors would.³² A capitalist holding a monopoly of productive property would operate by preference the plants of which the operation is the least costly, leaving others idle if necessary. However the least favoured competitor will not decide to close a plant so long as any profit, however modest, can be obtained.³³

At this point Blyumin criticises Cournot for not taking adequate note of the difference between static and dynamic points of view. For a static system Cournot is incorrect in assuming a uniform technical level. As regards a dynamic system Cournot fails to see the advantages of competition. Competition represents one of the most important levers of technical progress in commodity-capitalist economy, as various enterprises develop new techniques in order to gain the competitive edge over opponents and increase their profits. Monopoly, on the contrary, is capitalism in its highest and most corrupt and decaying form. Therefore Blyumin implies that Cournot is incorrect to argue that monopoly is in any

way more efficient in utilising resources than competition, and seems to be defending free competition against monopoly.³⁴ This approach is obviously taken from Marx, who perceived early capitalism to be dynamic and relatively progressive.

The last stage of Cournot's theory is unlimited competition. This differs from limited competition in that individual production D_k is not only sensitive to total production $D = F(p)$, but also to the derivative $F'(p)$, so that partial production D_k could be reduced from D without supporting a change in the price of a good. Suppose that we have a very large number of competitors, the formula for maximum profit will be $F(D) + D_k F'(D) - Y_k'(D) = 0$. Substitute p for $F(D)$ and divide by $F'(D) = dp/dD$, the following equation is obtained:

$$D_k + [p - Y_k'(D_k)] dD/dp = 0$$

For the case of unlimited competition it is possible to disregard the first D_k and dD/dp , and conclude that:

$$p - Y_k'(D_k) = 0 \quad (5)$$

In other words $p = Y_k'(D_k)$, which means the price is equal to the first derivative of the cost function, ie the cost of the last unit or the marginal cost. For cases with constant productivity $Y_k'(D_k)$ will be a constant, and the price of the good will equal its cost of production. For cases of increasing or declining productivity costs will not be constant, and therefore the price must equal the cost of the marginal unit.

Blyumin then proceeds to criticise Cournot. According to Blyumin the theory of marginal productivity is the theory of costs of production in its most absurd (*nelepoi*) form. Cournot has achieved a formula for price in unlimited competition on the basis of an analysis of monopoly price theory. The mistake lies in the methodology adopted. $Y_k'(D_k)$ expresses a functional dependence on the level of production costs in a given enterprise k . In other words it expresses the level of individual costs of production or, in Marx's terminology, individual prices of production (*tsenu proizvodstva*). Meanwhile Cournot equates these prices with market prices, and thus transforms data on individual costs of

production, chosen arbitrarily from the total mass, into a regulator of market price. This absurd conclusion is obtained by Cournot, according to Blyumin, because he has failed to establish an understanding of socially-necessary production costs. The latter are established in the process of competition, which is thrown at the reader by Cournot only in the final formula. The formula $p = Y_k'(D_k)$ is concluded from the formula $F(D) + DF(D) - Y'(D) = 0$, ie from the price formula for a monopolist. But for the monopolist individual and socially-necessary costs coincide, since one producer controls all the production of a good. Hence Cournot's ideas are related not to spontaneously regulated production, but to consciously planned production. He illegitimately transfers them to free competition, with the consequence that he erroneously equates individual with socially-necessary costs.³⁵

Another criticism which Blyumin puts is that the theory of marginal productivity can be applied only to a limited number of cases where there are specific conditions of production. These specific conditions are that differentials between various enterprises within a particular sphere should be constant rather than temporary. This is connected with the limited possibility of increasing production under given technical conditions in the best enterprises.³⁶ According to Blyumin the basic logical defect with Cournot's theory is the precondition that every competitor assumes the supply of his opponents to be constant. Blyumin quotes an article from the *Quarterly Journal of Economics* by Irving Fisher which questions this assumption.³⁷ Blyumin argues that Cournot incorrectly confuses the psychology of the monopolist entrepreneur with the competitor entrepreneur, and thus the results obtained are false. Every competitor entrepreneur in fact calculates the possibility of increased production by competitors, and desires to extract the greatest profit from 'seizing the moment' by increasing his own production. In production with 2, 3, or more competitors, the limits to production which Cournot indicates cannot be guaranteed. If production is taken to the level $D + np$ ($dD/dp = 0$), greater production might still occur, since competitors might decide to attempt to steal profits from

opponents by increasing their own production. Total profit would decline, but the profit of one competitor could increase.³⁸

Blyumin relates that for the case where costs of production are zero, the limit to this increase will be reached when prices reach zero and total profit vanishes. Thus clearly Cournot's formula leads to the logical absurdity that the basic law of competition, the law of price, leads to the abolition of price.³⁹ Blyumin further argues that the very idea of an optimal price for every competitor is internally contradictory. The existence of an optimal price for a monopolist is rational because of the limited nature of production and the possibility of forecast and planning. An optimal price exists because the demand for a given good is a function only of its price. However, with competition things are different. Supply can occur at various prices and in relation to other entrepreneurs. Since price in competition is determined by a whole series of factors independent of the given entrepreneur, an optimal price cannot exist for an individual entrepreneur. Profit rises and falls in relation to an infinite number of factors, and therefore a rational maximum cannot exist in this system.⁴⁰

Blyumin then continues by turning to the work of Dmitriev on Cournot. Dmitriev argues that if the assumption of an instantaneous increase in production is allowed, then there will be no difference between the most profitable volume of supply for monopolists or for competitors. With n competitors all of Cournot's formulae take the form:

$$d[\{D/n\}F(D)]/d(D/n) = 0$$

where D = total supply, n = the number of competitors, and $D_1 = D_2 = D_3 = D/n$. Transforming this we obtain: $1/n d[DF(D)] = 0$, or multiplying by n : $d[DF(D)] = 0$, which yields on differentiation: $F(p) + pF'(p) = 0$. Blyumin argues that Dmitriev ignores all economic struggle between competitors, and transforms them into members of a single joint-stock company. Further Dmitriev acts as if the volume of total production of a good was regulated consciously by a social organisation. Blyumin then turns to the assumption of instantaneous supply increase. This removes the possibility of a temporary super-profit from either increased

production or technical innovation, and Blyumin implies that this is incorrect.⁴¹

In general Blyumin concludes that Dmitriev makes the same mistakes as Cournot, as they both employ a similar method. This method leads to ignoring the economic content of various phenomena, and to erroneously equating monopoly with free commodity production. The basic tendency of mathematical economists is to rationalise commodity economy by asserting the existence of a maximum at the margin, and it is clear that Blyumin believes that this exercise is apologetic in nature.⁴²

It is interesting to analyse what Blyumin leaves out of his account of Dmitriev's essay on Cournot. Blyumin is concerned to show that Dmitriev and Cournot have the same methodological base, and thus arrive at similar conclusions. In fact, however, Dmitriev had criticised Cournot explicitly, and arrived at completely different conclusions than Cournot. Dmitriev's major work was his *Ekonomicheskie ocherki: opyt organicheskogo sinteza trudovoi teorii tsennosti i teorii predel'noi poleznosti*, which contains essays on Ricardo, Cournot, and marginal utility in general, and was first published complete in 1904. In the second essay, entitled *Teoriya konkurrentsii Dr. Kurno*, Dmitriev critically analyses Cournot's work. After presenting Cournot's theory in a highly mathematical manner, Dmitriev turns to criticising it. His basic criticism is that Cournot ignores the inefficiencies which accompany production under free competition. According to Dmitriev when monopoly prevails the national economy as a whole loses nothing. What is taken from consumers over and above necessary production costs is at the disposal of the monopolist as a particularly high monopoly profit:

...conversely, when free competition prevails, the entire sum paid by consumers over and above necessary production costs is lost without trace to the national economy, by its expenditure on non-productive costs (costs which do not increase the sum total of benefit). Therefore the thesis that free competition ensures the greatest productivity of existing means of production...is simply based on the incorrect assumption that free competition is capable of reducing the price of products to the necessary production costs under all conditions of production and use, and that it falls as these costs fall.⁴³

According to Dmitriev the logic of competition requires that entrepreneurs build up completely unnecessary stock, dead stock which raises the total costs of the enterprise, costs which have to be passed on to the consumer. The reason for this dead stock is that entrepreneurs are in constant fear that a competitor may suddenly increase his supply, thus increasing his market share and overall profit, even though the price of the good may decline because of this. In order to ensure that this does not happen each entrepreneur must carry extra stock as evidence to his competitors that he could retaliate in like fashion, and thus wipe out his competitors extra profit. It would be advantageous to each competitor to liquidate this dead stock, but only if all other competitors did likewise. Dmitriev makes an analogy with armaments. In an arms race if one side only disarmed (destroyed dead stock), then opponents could count on victory if battle commenced (could count on extra profit when supply was enlarged).⁴⁴ From this Dmitriev concludes that non-productive costs are incurred by enterprises in free competition, costs which raise the equilibrium price above necessary costs, and which show free competition to be non-optimal.

Dmitriev further shows that this conclusion is not the result of an assumption of equally favourable situations for the competitors. When the conditions of individual entrepreneurs are not equally favourable, for additional non-productive costs to be incurred it is sufficient that the necessary production costs of a unit of the good in question should be lower for the entrepreneur to whom it seems advantageous to lower the market price below that which maximises total gross revenue. Put another way, for additional costs to be common it is sufficient that average costs should be less than the price at which the greatest sum is taken from consumers (p_{\max}). According to Dmitriev this latter condition currently holds in all the most important and extensive industrial branches. Moreover, the greater is the need the product satisfies and the more advanced is the technique used for its manufacture, the greater is the probability that non-productive costs for the storage of speculative stock will be incurred.⁴⁵ Dmitriev also states that even when a good is transferred directly from producer to consumer, non-productive costs are still possible under

competition, arising from the operation of enterprises below capacity:

The occurrence of non-productive costs will become impossible only when consumer and producer *merge in the same person* (even if a corporate body), ie *when an exchange economy is once again converted into a natural economy*.⁴⁶

It is apparent that Blyumin chose to ignore this aspect of Dmitriev's analysis of Cournot at this point, even though it was plainly critical of free competition. It is impossible to be sure why this is so, but it may be because Dmitriev tried to show the non-optimality of free competition from within its own theoretical framework, ie gave an internal critique. Marxists generally have tended to reject the framework of neo-classical economics altogether as being purely apologetic, and have preferred to give external critiques, ie critiques from the point of view of the labour theory of value. Dmitriev's stated aim for his *Ekonomicheskie ocherki* was to attempt a synthesis of the labour theory of value with marginal utility, a proposal which can only be rejected by orthodox Marxists. Because of this Blyumin was not keen to be seen legitimising Dmitriev's work, and thus tried to associate him with the type of analysis conducted by Cournot and Walras. However, this does a disservice to Dmitriev.⁴⁷

After examining Blyumin's analysis of an early precursor of the neo-classical school, I turn to the 'big three' who make up the first wave of neo-classical economics proper: Marshall, Jevons, and Walras. In many ways these economists did not invent totally new concepts, rather they rediscovered already-existing ones and applied them in new ways. Hence there is some overlap between Cournot and (for example) Jevons. Since Marshall is perhaps the most well-known of the three, I begin with Blyumin's account of him.

8.4 - MARSHALL

According to Marshall in political economy there are three basic variants of the theory of value: the theory of supply and demand, in which price is determined by their relation; the theory

of utility, in which price is determined by utility; and the theory of costs of production, in which price is determined by production costs. Blyumin notes that Marshall attempts to unify these three variants in his own theory of price.⁴⁸ According to Blyumin supply and demand plays the main role in Marshall's theory of equilibrium. According to Marshall when supply equals demand there is equilibrium, and no changes in the level of production occur. Blyumin argues that this principle is incorrect. Changes in supply and demand affect the market price only, and cause the market price to deviate from the value or from price of production. When supply equals demand goods exchange according to value.⁴⁹ Thus Blyumin is clearly using the categories developed by Marx to criticise Marshall's theory.

Blyumin presents Marshall's development of the idea of elasticity. The elasticity of demand is expressed in the character of the demand curve. The more elastic is the demand, the greater is the gradient of the demand curve. A line at 45° to the axis would show demand to be unit elastic.⁵⁰ Marshall discusses the elasticity of various goods as follows. Demand for some goods is inelastic due to their very low price, eg salt. Elasticity of demand can be different for the same good in different sections of the population which have different purchasing powers, for example demand for meat, milk, and tobacco is highly elastic for workers but less so for the wealthy classes.⁵¹ Blyumin notes that the American economist H.L. Moore has attempted to define quantitatively formulae for the demand of various goods on the basis of partial elasticity. For example for rye:

$$y = 0.94 - 1.0899x + 0.02391x^2$$

On differentiating $dx/dy = 1/1.0899 = -0.92$.⁵² Thus Blyumin is clearly aware of the concept of elasticity and of ways to quantify it.

Blyumin notes that Marshall's theory of demand is distinct from Walras's. Walras begins from the amount of money available to subjects, their needs and desires, and market prices. On the basis of the second law of Gossen subjects distribute their money for the purchase of various goods in order to equalise their marginal utilities. Since all goods are bought in a definite quantity, the

level of demand for various goods can be established. According to Blyumin Marshall's determination of the level of demand is different. If the market price of a good equals a_n then various units of this good have different utilities for a given subject. If this is expressed in prices, then a falling series of prices $a_1, a_2, a_3, a_{n-1}, a_n, a_{n+1}$ is obtained. From Marshall's point of view the subject agrees to buy only that quantity of goods the latter units of which will have utility not less than the market price, ie n units. Blyumin states that if this interpretation is correct then Walras gives a more accurate method of calculating the quantity of demand. Marshall's presupposition that the utility of the last purchased unit cannot be greater than its price has an absolutely arbitrary nature. Moreover Marshall abstracts from the interdependence of all goods, unlike Walras, and hence is methodologically in error.⁵³ Marshall gives a partial equilibrium analysis whereas Walras attempts a general equilibrium analysis, and thus on this point Blyumin favours Walras over Marshall.

Blyumin then turns his attention to Marshall's idea of the consumer surplus. Suppose a consumer would buy one pound of tea at twenty shillings, two pounds at fourteen shillings, three pounds at ten shillings, four pounds at six, five pounds at four, six pounds at three, and seven pounds at two. According to Marshall he would not gain if he bought one pound for twenty shillings, since the marginal utility of this pound would equal its price. If however the price is fourteen shillings, the consumer would buy two pounds for twenty eight shillings. The total utility obtained would be $20 + 14 = 34$, whereas the price was only twenty eight, and hence the consumer gains $34 - 28 = 6$. This gain represents the surplus of total utility over price and is called the consumer surplus by Marshall.⁵⁴ According to Blyumin this analysis is incorrect. Marshall makes the mistake of merging utility with price, making the two totally commensurable. In fact Blyumin states that they are only partially connected, as they are two qualitatively different series. Blyumin highlights the absurdity of this idea by showing how it would be possible for $\text{£}100 = \text{£}1000$ if a subject possessed $\text{£}100$ but purchased goods which left a consumer surplus of $\text{£}1000$.⁵⁵ This is as absurd as stating that $a = ma$ where a and m are not zero, and results from Marshall's

confusing of the objective category of money with the subjective category of utility.

Blyumin then turns to Marshall's analysis of long and short periods. For Marshall the general logic of price determination necessitates analysis of the time periods involved, since the role of supply and demand is not identical in short and long periods. Marshall gives the following rule on the relation between price formation and time periods: the shorter the period the more influence demand will have on price, and the longer the period the greater the influence of costs of production. Marshall relates the existence of three basic periods: 1) very short, such as one day, in which the equilibrium between supply and demand is instantaneous; 2) medium term, such as one year, when it is possible to increase production in response to demand within the capacity of existing plant and with fixed worker skill levels and fixed levels of basic capital; 3) the long period of several years, when it is possible to increase all productive resources including labour and capital. These three periods relate to three types of prices: a) market prices; b) normal prices for the short period; c) normal prices for the long period. The laws regulating these three categories of price are different.⁵⁶

Only in a stationary economy where the general conditions of production and consumption remain unchanged does the market price equal the normal for short and long periods. Market prices in non-stationary economies are determined predominantly by demand. The short period normal price is influenced by demand, but not predominantly. Since it is possible only to partially increase production in the medium term, the short period normal price may be higher than the long period normal price if demand exceeds supply. However, the limit to which a short period normal price may fall is determined by the level of costs of production.⁵⁷ The latter Marshall divides into two categories: prime and supplementary costs. Hence costs of production also influence the short period normal price. For the long period normal price costs of production have the predominant influence. Marshall gives the example of fishing. If demand for fish increases long term, then fish prices will only change if this extra demand influences costs of production, ie if the production cost against production level

curve is not at 45° . Thus the cause of the varying influence of demand over the short and long period is the relevant cost elasticity of production.⁵⁸

According to Blyumin this analysis by Marshall is nothing new. Classical bourgeois economists recognised that the law of value can only be manifest over the long term, and Ricardo was critical of economists who thought that prices were determined exclusively by supply and demand. The law of value can act only when there is free reproduction and free movement of capital and labour, ie only in the long term. Thus Marshall's attempt to delineate between short and long period prices was not original.

Blyumin then conducts an examination of Marshall's analysis of the three laws of productivity. The influence of demand on the normal price can be eliminated, according to Marshall, if the production of the good in question follows the law of constant productivity, ie if costs of production per unit remain constant when production levels are increased. However, since rising or falling costs are also possible - the laws of decreasing or rising productivity respectively - this is not always so. When the laws of decreasing or rising productivity apply, the level of costs of production change in relation to changing demand, and hence the normal price will be influenced by demand through the level of costs of production.⁵⁹ Marshall establishes the following rule: in the case of declining productivity increased demand increases the price, and visa versa. Hence it follows that the influence of taxation on price levels will depend on which law of productivity applies to the good in question.⁶⁰ In the case of a good which obeys the law of falling productivity increasing the price by a tax will provoke a fall in demand (assuming demand to be unit elastic) and therefore a fall in production, which in turn will lower costs of production and thus exert downward pressure on prices. The reverse applies in the case of the law of rising productivity. Demand will fall causing production levels to fall, but this will force costs of production higher thus putting further upward pressure on prices. Hence Marshall comes to the conclusion that taxes on goods obeying the law of rising productivity have negative effects.⁶¹ However, as I noted above

this reasoning depends on demand being unit elastic, which in many cases it is not.

Blyumin then turns his attention to Marshall's analysis of costs of production. The basic task of book five of the *Principles* consist of showing that prices are identical with costs of production only under certain circumstances. These circumstances are related to the time period involved and to the level of production, which in turn depends on the level of demand. The indirect influence of demand occurs in those cases where the law of falling productivity applies. According to Marshall the costs of production, the intensity of demand, the limits to production, and the price of products are interconnected and regulate one another: there is no logical circle in the position that every one of the parts are regulated by other parts without a final cause uncaused.⁶² Marshall states that the following elements are constituents of costs of production of a good: the prices of the raw materials; interest on the capital; wages; profit; costs of administration. However, Blyumin notes that all these constituents are in fact prices, and thus Marshall is arguing that price is determined by costs of production (in special circumstances) which are in turn determined by prices.

Blyumin states that the difference between Marx and Marshall in this respect is not that the former denies that costs of production influence and determine prices, but rather in the manner in which these costs are explained. For Marx costs represent the value form of expended factors of production, value in this case meaning the quantity of abstract social labour rather than the marginal utility. Therefore the real difference lies with the theory of value, not with costs. Marshall delineates between two understandings of costs - real and monetary. The first type of costs do not have a monetary character, and relate to the difficulty encountered when producing a good. The second type relates to the monetary outlays required to compel people to overcome the difficulty. Marshall criticises some economists (eg Mill) for not indicating precisely what meaning they have in mind.⁶³

According to Blyumin what differentiates Marx from the marginalists is that the latter see real costs coming from two

basic elements: labour expenditure and the abstinence of capitalists. However, Marshall substitutes the word 'waiting' (*ozhidanie*) for 'abstinence' (*vozderzhanie*). In contrast Marx bases his theory on the notion that only labour creates value. However, the analysis of Cairnes uses three basic elements: labour, abstinence, and risk. Blyumin shows that Marshall uses the labour and waiting analysis of real costs in his price theory. The final basis of price is the quantity of demand and the costs of production, the latter being determined by the quantity of labour and waiting involved.⁶⁴ Blyumin then shows how Cassel criticised all non-monistic explanations of price, including Marshall's. Cassel argued that all dualistic or other non-monistic theories are incorrect because of the impossibility of summing the various factors determining price. In Marshall's case labour and waiting are two qualitatively different factors and hence are totally incommensurable. Blyumin states that it would be possible to establish a quantitative relation between them only by making the transition from material content to value expression, but this means turning from a costs of production approach to a labour theory approach.⁶⁵

Blyumin relates that the theory of real costs plays only a subsidiary role in Marshall's system. The decisive role in Marshall's theory is played by monetary costs. The supply price depends directly on monetary costs, and real costs influence the supply price only in so far as they regulate the level of monetary costs. In relation to labour and waiting, the higher the marginal displeasures (*predel'naya nepriyatnost'*) of these factors the higher will be the stimuli required to overcome the displeasure, ie the higher the wages and the interest rate respectively. However, Blyumin asks: are these marginal displeasures factors which regulate the level of monetary costs of production? Can monetary costs be viewed as adequate reflections of the strength of desires of capitalists and workers? Blyumin states that Marshall must give a negative answer to this question.⁶⁶ According to Blyumin Marshall at this point falls into the mistake common to bourgeois economists of letting the value of a good be dependent on wages, profit, and rent. Therefore for Marshall in order to

obtain an understanding of the factors regulating monetary costs, it is necessary to operate with a theory of distribution.⁶⁷

In regards to the labour theory of value, Blyumin notes that Marshall agrees that value is proportional to the amount of expended labour only under certain specific circumstances: *ceteris paribus* that labour is equally qualified and consequently receives equal wages, equal quantity of capital, identical turnover periods, and equal profit norms. Once various levels of qualification are introduced, then commensurability is lost.⁶⁸ In terms of the price of labour power, Blyumin notes that Marshall favours the demand approach rather than the costs of reproduction approach. Demand prices for labour power are determined by the marginal productivity of labour, not by the costs of reproducing the labour power in terms of subsistence needs of the family.⁶⁹ Thus Blyumin is disagreeing with Marshall on this point.

In conclusion Blyumin states that Marshall's economic theory is based on two contradictory propositions: the regulating role of supply and demand, and the fact that the quantity of primary productive factors (labour and waiting) are not fixed, but variable. The first puts Marshall with the subjectivists, the second with vulgar classical political economy.⁷⁰ Blyumin argues that because of this Marshall's theory can be seen as a new stage in the development of the vulgar school, a stage which attempts to unite a supply and demand approach with a costs of production approach. The unification occurs through Marshall's use of various time periods and the various laws of productivity. In the short period demand is more significant than in the long period, and in the case of the law of constant productivity the influence of demand is weaker than in cases of rising or falling productivity.⁷¹ Thus Blyumin thinks that Marshall evades the question of what is the final determinant of price, and his method of combining supply and demand with costs is unclear and eclectic.

8.5 - JEVONS

Blyumin begins this analysis by stressing the difference between Jevons and the Austrian school.⁷² Although Jevons declares that political economy must be based fully on utility, in actual

fact he supposes that individual consumption and consequently marginal utility depends on price. Thus price is seen as one of the factors influencing the level of supply and demand, whereas the Austrians view utility as the sole basis of price. Furthermore, according to Blyumin the theory of utility plays in Jevons a different role than in the Austrians. Utility theory is necessary for Jevons in order to determine the quantity of demand using the first and second laws of Gossen.⁷³ Utility is viewed as a function of quantity of supply, ie if there is a known supply of a good the utility of every different unit will differ according to the first law of Gossen. Analytically this is expressed by $u = f(x)$, where u is utility and x is the quantity of the good in the given supply. The task is to determine the utility of various units, given the total utility. It cannot be determined by simply dividing the total utility u by the number of constituent parts x , since individual utility changes with supply.

Blyumin continues by showing how Jevons derives an expression for determining the utility at every point on the supply curve. Suppose that a curve PQ is an expression of the total utility function. When supply $x = oa$, then the utility of all supplies will equal the corresponding ordinate ac . If total supply increases by a small amount (aa_1), then total utility also increases by the amount b_1c_1 . In order to understand the constituent units in the interval aa_1 it would be necessary to divide the increase in utility b_1c_1 by the increase in supply aa_1 , or in general du by dx , or:

$$du/dx = [f(x + dx) - f(x)]/dx$$

However, this expression does not give an exact representation of the quantity of utility at every point. The difference between the various units will be smaller, the smaller is the length taken. If we suppose that the increase in supply dx is infinitely small then the inexactitude disappears, and an expression for the utility at every point in relation to supply is obtained. This is the first

derivative of the given function according to x . Hence it is possible to come to the conclusion that the utility of every different unit of supply is the first derivative of total utility viewed as a function of the quantity of supply.⁷⁴

However, in reality total utility of a whole complex of various goods depends not only on x , but also on the supply of y , z , etc. From this point of view to define the utility function of one good apart from others is very difficult, since every good influences total utility. In such a case $u = f(x)$ is replaced by $u = f(x, y, z)$, and the partial derivative is:

$$\lim_{dx \rightarrow 0} [f(x + dx, y, z) - f(x, y, z)]/dx = df(x, y, z)/dx$$

Blyumin notes that Pareto also defines the marginal utility (in his terminology *l'ophelinite elementaire*) as the first partial derivative of the general utility of supply of various goods. Blyumin explains that on analogy with the mechanical interpretation of the first derivative it can be understood as the rate in relation to time. Blyumin further notes that such a mathematical interpretation of marginal utility has a highly modest theoretical significance. Its role is only to allow the calculation of the utility of an infinitely small part of a given supply of goods, and thus is a measurement tool for concrete utility. Moreover, the process of differentiation of the utility function presupposes that this function is continuous (*neprerivnyi*) and can be infinitely divided. 1/1000 of a loaf of bread may have a physical significance but it does not carry any utility for a person who eats it, and therefore for subjects this microscopic piece of bread does not exist. In so far as value is only attached to goods with utility, this means that the infinite division of value is impossible. Hence Blyumin is arguing that the application of differentiation to this problem is an error.⁷⁵

However, Blyumin also argues that the method of taking the limit used by Jevons transforms the category of concrete utility into a qualitatively different category. It is a feature of the law of decreasing utility that at any point on the utility curve the marginal utility will not coincide with the average utility calculated by dividing the total utility by its constituent parts.

With declining supply the difference between these two categories falls. With an infinitely small portion of supply the difference is infinitely small, and hence this process gradually overcomes the first law of Gossen. Together with the latter goes a process of gradual relaxation of the subjective phenomenon of utility, and the merging of it with objective phenomena. As a result the category of concrete utility changes its nature in this process.⁷⁶

Blyumin relates how Jevons tries to base the use of the infinitely small division on society as a whole. For Jevons the infinitely small part of supply acquires a meaning if society is used rather than individuals. In relation to individuals it would clearly be meaningless, but in relation to the nation as a whole consumption can be represented as increasing or decreasing in infinitely small portions compared to the total level of consumption. Laws which are therefore concluded by means of assuming infinitely small divisions can be viewed theoretically true for individuals but actually correct in relation to the production and consumption of the whole nation. However, Blyumin implies that such reasoning seems rather out of place from a group of theorists who view the individual subject as the primary unit on which all reasoning must be based.⁷⁷

Blyumin is again concerned to show that Jevons' analysis, like that of all the subjective school, is based on circular reasoning. Market price is both used by economists as an indicator of the subjective desires of individuals, and is itself supposed to be determined by the subjective wants of subjects. Subjective perception is at one time viewed as the cause of market price and another time as its consequence. However, Blyumin here provides a way out of this circular reasoning by distinguishing between two different meanings of 'to determine'. When economists say that prices are determined by the marginal utility of a good they mean utility is the basis from which prices are formed, ie there is a causal link from utility to price. But when they say that utility can be determined on the basis of price 'to determine' here means to calculate the quantity of, not that there is a causal link from price to utility.⁷⁸ While this seems a quite perceptive analysis by Blyumin, he then dismisses it as 'unsolvable' and proceeds to

continue criticising the subjective school for their inability to obtain a precise quantitative representation of desire.

Turning now to Jevons' mathematical expression of the proportionality of price to marginal utility, Blyumin relates that if $v_1(a - x)$ is the marginal utility of grain for consumer A and $v_2(x)$ the corresponding function for B, and if $u_1(y)$ is the marginal utility of meat for A and $u_2(b - y)$ the analogous function for A, A will be satisfied only if:⁷⁹

$$v_1(a - x) dx = u_1(y) dy$$

This equations signifies the equality of the utility of the last increment of goods for A and B. From this formula Jevons comes to the conclusion that marginal utility is proportional to price. However, according to Blyumin this is mistaken. All that can be concluded from the second law of Gossen is that at the moment the deal is concluded the utilities obtained from the marginal goods exchanged are equal. The conclusion relating marginal utility to price requires a further assumption in contradiction with the law of falling utility.⁸⁰

Blyumin argues that the proportionality of price to marginal utility applies only in very special circumstances. These are as follows: a) the marginal utility of goods being equal; b) the possibility of infinite division of desires and needs; c) abstraction from the law of falling utility for small supplies of goods; d) developed exchange; e) for cash exchange; f) only for buyers, but not for sellers.⁸¹ In the case of the last circumstance Blyumin argues as follows. The second law of Gossen supposes that buyers can always choose on the market that combination of consumer goods which they evaluate as maximally useful. The initiative of choice is always with the buyer, and sellers have to adapt to the needs and wishes of buyers. Consequently Gossen's second law supposes that sellers are not interested in the marginal utility of the goods they sell, rather to them the exchange value is of prime importance. In this case the level of supply is determined by demand and goods are produced exclusively for sale on markets. The consumption of the sellers does not play a decisive role, and hence marginal utility is

proportional to price for only one side participating in exchange - namely for buyers.⁸²

The method Jevons uses to determine the exchange ratio is further criticised by Blyumin as follows. Jevons first views one of the subjects as the buyer, and exchange is taken to the point when marginal utility equals price. But here the second subject has no influence on the level of supply, he merely fulfils the demand of the first subject. But then Jevons relegates the first subject to passivity, and makes the second subject the active agent determining supply. From this process two relations are obtained: for the first subject marginal utility equals price, and for the second subject likewise. However, this is done by ignoring the role the other subject has when supply levels are determined, and thus for Blyumin this method is incorrect.⁸³

Suppose that the formula of proportionality given by Jevons is correct. Does this allow price to be explained? According to Blyumin:

For Jevons the regulatory role of the marginal unit applies only when analysing the theory of exchange. Marginal utility allows the establishment of the limits to which exchange is taken, and shows only from the hedonistic point of view the distribution of income of given subjects.⁸⁴

The proportionality formula does not explain the formation of given prices, rather it arises from the existence of given prices. Hence proportionality is not a theory of price, rather a theory of exchange. And if it takes prices as given it cannot claim to show that the given price structure is optimal, since it does not attempt to explain this price structure. Thus Blyumin argues against the idea that marginal utility shows capitalism to be optimal, and shows that Jevons uses an exchange optimum in isolation rather than in association with a production optimum.

Blyumin notes that the formula of proportionality is given by Jevons as follows:

$$(du_1/dx)(dx/dl_1) = (du_2/dy)(dy/dl_2)$$

This allows the calculation of the quantity of labour which producers must lay out for the production of various goods. From

this equation it is clear that the distribution of labour in an individual economy is determined by two factors: the utility of various goods and the labour outlays required to produce them. For Jevons the most rational combination of various products will be that for which marginal utility is proportional to labour outlays or labour costs of production.⁸⁵ According to Blyumin these equations are correct for natural economy alone, since in commodity economy other factors are also at work.

8.6 - WALRAS

According to Blyumin Walras is undoubtedly the greatest representative of the mathematical school, and his system was much copied by other members of this school. However, Walras's method differs from that of Jevons or Gossen in that he tries to deduce the theory of marginal utility (which he calls *rarete*) from the theory of supply and demand.⁸⁶ Blyumin argues that the method of constructing a supply curve used by Walras is based on a confusing of material with value phenomena. When Walras speaks of the quantity of demand he always means a definite quantity of (material) goods, but when he turns to defining the quantity of supply his material quantity of demand turns into a value quantity. Hence the curve illustrating the movement of supply and demand expresses two incommensurable phenomena.⁸⁷

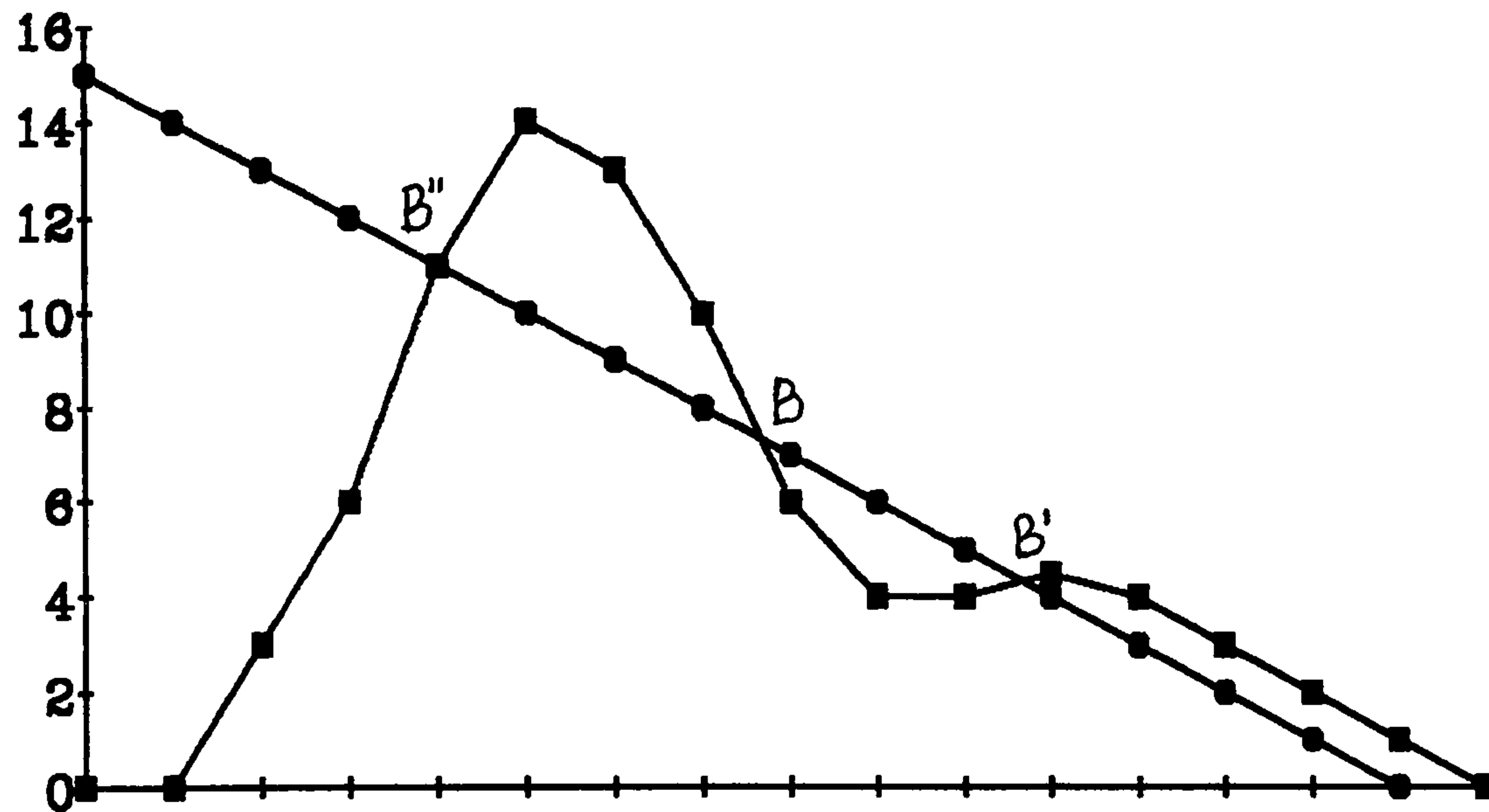
Blyumin states that the basic mistake of Walras is that by changing supply he understands a changing distribution of existing goods between subjects, and not a changing supply of goods caused by changing production levels:

For mathematicians the composing of equilibrium means not a tendency to proportional distribution between various spheres, as a result of which stimuli to transfer labour and capital from one sphere to another declines, but rather proportional distribution of already existing supplies, as a result of which stimuli to redistribute existing supplies decline.⁸⁸

Further Walras's assumption that all prices could stimulate supply is erroneous. He tries to generalise from a specific case to

general conditions. One such case is when the supply curve intersects the demand curve at three points:⁸⁹

SUPPLY/DEMAND CURVES Intersecting at B', B, & B''



The normal equilibrium logic applies if supply is established on the right of B' or B''. This will mean that supply exceeds demand, provoking a fall in prices and thus reducing supply. The reverse is true if supply is to the left of B and B''. In these cases the non-coordination between supply and demand provokes a counteracting tendency which restores the disrupted equilibrium. This process Walras call a stable equilibrium.

However, a very different picture emerges if supply is established at point B. In this case if equilibrium is disrupted, then this non-coordination will grow. Instead of approaching towards equilibrium a movement away from it will occur. This happens because of the shape of the supply curve. In this case a price rise provokes a reduction of supply, and here Walras attempts to show an example where prices do not fulfil the role of a regulator restoring equilibrium. This process Walras calls unstable equilibrium. However, Blyumin is concerned to show that this special case applies only in very restricted circumstances: in an economy where natural elements are strong and where only the surplus of (for example) grain is placed on the market.⁹⁰ Blyumin

argues that this means that capitalism must be being introduced externally, ie the natural economy is being transformed under foreign influence. In this case the growth of marketability is linked to the rise of capitalist elements in the economy.⁹¹

Moving on to Walras's theory of production, Blyumin outlines how Walras constructed a theory of two markets: a productive services market and a product market. On the first type of market entrepreneurs organising production act as purchasers, and they buy land services, labour services, and capital. These deals are conducted in the normal fashion, obeying the conventional laws of market exchange. In series with these services markets exist product markets, where entrepreneurs act as sellers. The system of prices on service markets is expressed in costs of production (*prix de revient en services producteurs*) and on product markets in selling prices of goods (*prix de vente des produits*). Between these two systems agreement is expressed through the law of costs of production, where prices of goods must equal their cost of production.⁹² Blyumin notes that Walras usually divides the owners of enterprises into two types: owners and entrepreneurs. According to Blyumin by doing this Walras abstracts from the fact that entrepreneurs are frequently the same as capitalists.

Blyumin states that Walras's production prices and consumer services are regulated by the same principles as goods prices, ie through the law of supply and demand. However, Walras combines a theory of supply and demand with costs of production as follows. On the one hand prices of all consumer goods equal their cost of production. But these costs of production (or the prices of productive goods) are determined by the supply and demand for them. Consequently supply and demand plays the decisive role, as the costs of production which explain finished consumer goods are in turn determined by supply and demand. Through the theory of costs of production to the theory of supply and demand - this is the most important thread of Walras's approach. Blyumin comments that this theory is more logical than Marshall's, which mechanically attempts to combine costs and demand as two equally valid methods of explaining price. For Marshall demand and costs explain the price level with equal correctness; for Walras costs are explained on the basis of supply and demand.⁹³ Thus Blyumin

favours the approach which outlines a clear causal sequence from costs to demand, rather than one which relates costs and demand functionally and which does not choose one as fundamental.

8.7 - PARETO

According to Blyumin the theory of Vilfredo Pareto represents the logical completion of that evolution which was observed in the mathematical school. Pareto distinguishes between two types of exchange, called types I & II. By the first type Pareto understands such an exchange where participants aspire only to expedient satisfaction of their needs, accepting the existence of prices as given. In the second type the participants in exchange attempt directly to influence the level of market prices, eg a powerful banking company acting on currency markets.⁹⁴

Actually Pareto gives a third type of exchange - type III - in which the entire economic system is arranged in such a way that maximum welfare is obtained for all those who participate: this is a collectivist organisation of society.⁹⁵ It is revealing that Blyumin omits this third type, since Pareto argues that in order to obtain maximum *ophelimity* (utility) the collectivist state would have to equalise the various net interests and determine the coefficients of production in the same way as free competition determines them.⁹⁶ However, Pareto was neutral about what prescriptions pure economics gave for social organisation, stating that economics alone does not give a truly decisive criterion for deciding between an organisation of society based on private property and a socialist organisation.⁹⁷

Returning to Blyumin, he continues his analysis of Pareto by noting that one of the most powerful arguments against marginal utility theory is the impossibility of exact measurement of desires. In order to overcome this problem Pareto makes use of the difference between ordinal and cardinal ranking in his theory of the indifference curve. While it may not be possible to give an exact quantitative expression to desire, it may be possible to rank desires in order of strength. In the case of a consumer of two goods - wheat and wine - it would be possible to construct an indifference curve which illustrated how much of one good the

consumer was prepared to forgo to obtain an additional unit of the other good, and visa versa. For example:⁹⁸

Wheat	1.6	1.4	1.2	1.0	0.8	0.6
Wine	0.7	0.8	0.9	1.0	1.4	1.8

However, Blyumin argues that Pareto actually makes the same mistake of confusing ordinal with cardinal quantities.⁹⁹ Pareto recommends that the concrete act of choice be taken as the basis for theoretical study. Every participant in exchange decides between competing goods, and their choice in this respect reveals their preferences. However, Blyumin criticises Pareto for taking these preferences as given, and not investigating what determines them. According to Blyumin it is the general character of the given economic structure which causes preferences to be what they are, and thus in a commodity economy the key factor is the exchange value. Subjects are indifferent to given combinations because under equal market values they provide equal utility, and hence price plays an important role.¹⁰⁰ In Pareto's own example of wine and wheat it is necessary to suppose that the prices of the various combinations are identical, which means that prices and utilities always coincide. Such a coincidence means that total utility must be proportional to price, an idea absent from the theory of marginal utility. Furthermore, if various combinations have the same price and the same utility, it follows that utility must always equal price, a conclusion which contradicts the first law of Gossen - that marginal utility falls with increasing amounts of the good in question.¹⁰¹

Blyumin argues that Pareto in fact has a dualistic understanding of utility. On the one hand it is the aspect of the good which satisfies desire, as understood by the Austrians and Walras. On the other the amount of utility a thing possesses is deduced from the act of choice, and here utility acts as the evaluator of the worth of a good. Utility in the first case is a factor influencing price, in the second it is a derivative quantity influenced by price. According to Blyumin the struggle between the two senses, between utility theory and choice theory, is an expression of the struggle between causal and functional methods of investigation.¹⁰² Thus for Blyumin Pareto's use of

functional reasoning indicates the failure to provide a rational and clear basis for utility.

8.8 - DMITRIEV

As already examined Dmitriev was discussed by Blyumin in his chapter on Cournot. However, Blyumin further devotes an entire chapter to Dmitriev. According to Blyumin Dmitriev is undoubtedly the greatest representative of the bourgeois mathematical school in Russia. His main work was entitled *Ekonomicheskie ocherki* and for Blyumin the main interest lies in the first two parts of this book where the author discusses Ricardo and monopoly. Dmitriev presents a number of highly original conclusions, not the least of them being that free competition leads to prices rising above costs of production on the basis of the law of demand. Despite the fact that Dmitriev's conclusions have not obtained general currency among economist-mathematicians, his methodology has many similarities with the methodology of the mathematical school, for example the primacy of functional over causal analysis.¹⁰³

It is well-known that different opinions exist over the interpretation of Ricardo's theory of value. Some say he was a supporter of the labour theory, others the costs of production approach. Dmitriev adopts the second position. According to Blyumin it is also well-known that the basic defect of the costs of production approach is its circular reasoning, as revealed by Bohm-Bawerk. On the one hand prices are determined by costs of production, ie wages, average profit, raw materials, but the prices of these in turn are determined by costs of production, and hence price determines price. Dmitriev tries to overcome this problem by composing such a system of equations which would be sufficient to determine the price of all goods based on the theory of costs. The basic fact of dependence of price on costs Dmitriev expresses as follows:

$$X_A = (n_A a_{Aa} + n_1 a_{1a} + n_2 a_{2a} + \dots n_m a_{ma}) + (y_A + y_1 + y_2 + \dots y_m)$$

where X_A is the price of product A; $n_A \dots n_m$ is the number of working days expended directly in producing A and in the

production of means of production; a is the quantity of the product in question consumed by workers in a day; x_a is the price of a ; $y_A \dots y_M$ is the profit obtained in making product A .

Blyumin further relates how Dmitriev gives an equation for the determination of the total quantity of labour directly and indirectly expended on a product A . The quantity of labour directly consumed in production = n_A ; let several kinds of 'technical capital' $K_1 \dots K_M$ be involved in production; let there be consumed in production $1/m_M$ of the capital K_M ; let the amount of labour directly and indirectly expended on the production of the capital K_1 be N_1 ; in this case the total sum of labour expended on the production of a unit of A will be:

$$N_A = n_A + (1/m_1) N_1 + (1/m_2) N_2 + \dots (1/m_M) N_M$$

Here $N_A, N_1 \dots N_M$ are unknowns.¹⁰⁴ Blyumin criticises this approach by noting that Dmitriev eliminates outlays on constant capital (c), rather all cost are viewed as wages or variable capital (v).¹⁰⁵ According to Blyumin in so far as labour in capitalist society is divided into necessary and surplus, so all value produced by labour must be divided into variable capital and surplus value. Dmitriev's position would be correct only under definite circumstances: that labour in all phases of the production process creates new value, but is not transposed on a product of value created by antecedent labour, ie there is only variable capital. However, since most production does utilise constant capital Blyumin states that Dmitriev's attempt is erroneous.¹⁰⁶

Blyumin then proceeds to give an account of determining socially necessary labour. The latter can be determined only on the basis of established market values. No commodity producer can say that only socially necessary labour was expended on his product. To know this it is necessary to know the conditions of social production and have information about the evolution of technique on a social scale:

Thus the quantity of socially necessary labour can only be determined *post factum*, only on the basis of the results of exchange. And in this there is no paradox or contradiction, since it expresses the

anarchical character of commodity economy in which basic exchange proportions are established independently from the wishes of producers.¹⁰⁷

However, by stating that socially necessary labour can only be determined *post factum* and on the basis of market values, Blyumin can be criticised for exactly the same error as the one he accuses the subjective school of making. If socially necessary labour determines price, but can only be calculated on the basis of price, then this analysis is based on a logical circle and on functional reasoning. Blyumin thus employs circular reasoning to explain socially necessary labour.

8.9 - CASSEL

In the chapter on Cassel Blyumin gives his own account of what he thinks socialist exchange will be. According to Blyumin socialist exchange is a relation which exists between individual consumers and the totality of producers, ie the social organisation of all producers and consumers. Socialist exchange is an expression not of the relations between atomised individuals but between the individual and society. Therefore there are no antagonisms between the participants in socialist exchange. Price in socialist exchange is not a tool to subordinate subjects to the strongest participant, rather a mechanism to achieve the most rational distribution of products between subjects.¹⁰⁸ The laws which govern price in capitalist economy differ however from those which would apply to socialist exchange. For example in the case of a growth of social demand for a product the socialist organs of distribution would not be obliged to increase the price of the good, rather with sufficient reserves socialist organs would satisfy the increased demand without disturbing the existing distributive norms.

Blyumin gives this account to show that Cassel's argument that the socialist distributive mechanism would be identical to the capitalist one is incorrect. The latter aims to achieve the greatest profit, the former rational distribution of production. The latter changes with every shift in market conjuncture, the former only when methods of production change.¹⁰⁹ Blyumin further

criticises Cassel for arguing that price formation in capitalist economy is rational, ie aspires to obtain the most useful effect with given outlays. According to Blyumin this principle can only exist under socialism.¹¹⁰ Thus Blyumin argues that optimality is not achieved in capitalism, but will be achieved in socialism. In this he has some similarity to Walras, who argued that optimal price formation was a theoretical ideal.

8.10 - CONCLUSION

Blyumin's work is clearly the most detailed examination of neo-classical economics which occurred during NEP. However, no attempt is made by Blyumin to relate any of this theory to economic problems faced in the USSR, or even to suggest how any of it may be relevant. The notion of elasticity is an example of an idea which could have been used to help policy making at this time in relation to the question of what price structure would encourage the peasants to produce high yields of necessary crops.

As regards conceptions of the market it is apparent that Blyumin was very critical of those economists who tried to show that market production and exchange was in any way optimal. This is rational from a Marxist perspective, since if capitalism achieved optimal production and distribution of resources the impetus to overthrow it is made redundant. However, it is worth pointing out that Blyumin was the only economist from the NEP period who actually attempted to refute market optimality. Yurovskii seemed to agree with this idea theoretically, although he did point out that it may not apply in practise, while Marxists like Preobrazhenskii or Strumilin did not bother to raise the issue explicitly. Blyumin was thus unique in his approach to neo-classical economics.

NOTES

- 1 For example the chapter called *Teoriya Val'rasa* appeared in two parts in VKA no.XXIII p.68-120 and no.XXIV p.90-137 in 1927.
- 2 See for example Blyumin, 'Ekonomicheskoe uchenie Kiensa', *Izvestiya ANSSSR*, no.4 1946, p.301-319.
- 3 Blyumin, *Kritika burzhuznoi politicheskoi ekonomii tom 1: Sub'yektivnaya shkola v burzhuznoi politicheskoi ekonomii* (Moscow: AN SSSR, 1962), p.3.
- 4 Ibid, p.9.
- 5 Ibid, p.10.
- 6 Ibid, p.12/13.
- 7 Ibid, p.14.
- 8 Ibid, p.24.
- 9 Ibid, p.34.
- 10 Ibid, p.36.
- 11 Ibid, p.43.
- 12 Ibid, p.45.
- 13 Ibid, p.57.
- 14 I. Blyumin, 'Teorii Kurno', *Vestnik kommunisticheskoi akademii* no.19 1927, p.92.
- 15 Ibid, p.95.
- 16 Ibid, p.96.
- 17 Ibid, p.98.
- 18 Ibid, p.100.
- 19 Ibid, p.102.
- 20 Ibid, p.103. It is interesting to note that Cournot actually admitted that there could theoretically be more than one optimum in relation to $D = F(p)$, but dismissed this as unlikely from a practical viewpoint.
- 21 Ibid, p.104.
- 22 Ibid, p.105.
- 23 Ibid, p.106.
- 24 Ibid, p.109.
- 25 Ibid, p.110.
- 26 Ibid, p.112/3.
- 27 Ibid, p.116/7.
- 28 Ibid, p.118.
- 29 Ibid, p.119.
- 30 Ibid, p.121.
- 31 Ibid, p.123.
- 32 Ibid, p.124.
- 33 Cournot, *The Mathematical Principles of the Theory of Wealth* (MacMillan, 1897), p.87. This argument falls down if the least favoured competitor can move out of his current branch of production and into another branch where profit rates are higher.
- 34 Blyumin, 'Teorii Kurno', p.125.
- 35 Ibid, p.126.
- 36 Ibid, p.128.
- 37 Fisher, 'Cournot and Mathematical Economics', *Quarterly Journal of Economics* vol.XII, January 1898, p.126.
- 38 Blyumin, 'Teorii Kurno', p.130/1.
- 39 In fact Cournot claims that the attempt by competitors to obtain a temporary benefit is based on short-term rather than long-term considerations, and is an example of unstable equilibrium. See Cournot, *The Mathematical Principles of the Theory of Wealth*, p.83.

- 40 Blyumin, 'Teorii Kurno', p.132.
41 Ibid, p.133-135.
42 Ibid, p.136.
43 V.K. Dmitriev, *Economic Essays on Value, Competition, and Utility* (Cambridge, 1974), translated by D. Fry, p.148.
44 Ibid, p.149.
45 Ibid, p.154/5.
46 Ibid, p.167.
47 Actually Blyumin does note Dmitriev's criticism of the non-rationality of free competition in the chapter devoted to Dmitriev in *Sub'yektivnaya shkola*, but he tries to show that Dmitriev assumes a solidarity of interests in relation to exchange but a conflict of interests in relation to production. Blyumin is not concerned to use Dmitriev's work to show the non-optimality of free competition.
48 Blyumin, *Kritika burzhuznoi politicheskoi ekonomii*, p.165.
49 Ibid, p.166.
50 Ibid, p.175.
51 Ibid, p.176.
52 Ibid, p.177.
53 Ibid, p.178.
54 Ibid, p.179.
55 Ibid, p.181/2.
56 Ibid, p.185.
57 Ibid, p.188.
58 Ibid, p.189/90.
59 Ibid, p.192.
60 This notion is very important for the USSR in the 1920s. The question of the influence taxes would have on prices of agricultural goods was especially relevant to the scissors crisis and the grain crisis of 1927/8.
61 Ibid, p.194.
62 Ibid, p.204.
63 Ibid, p.205.
64 Ibid, p.207.
65 Ibid, p.208.
66 Ibid, p.211.
67 Ibid, p.212.
68 Ibid, p.214.
69 Ibid, p.215.
70 Ibid, p.221.
71 Ibid, p.223.
72 It is worth noting that in *The Theory of Political Economy* Jevons gives an analysis of the various meanings of 'market'. Originally it meant a public place in a town where provisions were offered for sale, but the word came to be generalised to mean any body of persons in intimate business relations. In economics a market is two or more persons dealing in two or more commodities, where stocks and intentions are known to all. It is also necessary that the ratio of exchange is known, and the market extends as far as this community of knowledge extends. See *The Theory of Political Economy* (Penguin, 1970), p.132/3.
73 Blyumin, *Kritika burzhuznoi politicheskoi ekonomii*, p.623/4. The first law of Gossen can be stated as follows: the magnitude of a given pleasure decreases continuously if this pleasure continues to be satisfied without interruption until satiety is ultimately reached. Gossen's second law can be stated: the

magnitude of each single pleasure at the moment when its
 enjoyment is broken off shall be the same for all pleasures.
 This second law is elaborated by Gossen to show that the
 equality of marginal utilities in different activities is a
 necessary condition for the optimal allocation of resources.
 Ibid, p.626/7.
 Ibid, p.628.
 Ibid, p.629.
 Ibid, p.630.
 Ibid, p.632.
 Ibid, p.639.
 Ibid, p.640/1.
 Ibid, p.651.
 Ibid, p.649/50.
 Ibid, p.650/1.
 Ibid, p.653.
 Ibid, p.679/80.
 Ibid, p.697.
 Ibid, p.703/4.
 Ibid, p.709.
 Ibid, p.710, diagram 31.
 This clearly applies to the USSR during NEP, where the tax in
 kind encouraged peasants to sell their surplus and where War
 Communism had caused a revival of natural elements. Thus this
 sort of price logic could apply to certain goods in the USSR,
 and hence Blyumin should relate this to the scissors crisis and
 the question of what would happen if the scissors were altered.
 Ibid, p.712.
 Ibid, p.758.
 Ibid, p.769.
 Ibid, p.828.
 Blyumin, *Manual of Political Economy* (MacMillan, 1971), p.117/8.
 Ibid, p.268.
 Ibid, p.269.
 Blyumin, *Kritika burzhuaznoi politicheskoi ekonomii*, p.837.
 Ibid, p.857.
 Ibid, p.861.
 Ibid, p.862/3.
 Ibid, p.863/4.
 Ibid, p.533.
 Ibid, p.538.
 Ibid, p.537.
 Ibid, p.539.
 Ibid, p.541.
 Ibid, p.783.
 Ibid, p.784.
 Ibid, p.786.

9.1 - INTRODUCTION

NEP was a transitional period in the Soviet economy, and perhaps it would be expected that this was reflected in the nature of the economic theory written during this period. It is certainly the case that there was many diverse currents which flowed through NEP, and this multiplicity of approaches is mirrored in the attitudes of economists towards the market and market economics examined in this thesis.

As regards a general normative appraisal of the market, three basic groups can be distinguished: Preobrazhenskii, Strumilin, and Blyumin were clearly anti-market; Yurovskii, Sokol'nikov, and Oparin were pro-market to a quite large degree; Bukharin, Bazarov, Groman, Kondrat'ev, and Chayanov were prepared to accept the use of the market in the transition period on pragmatic grounds, but their attitude towards the market in principle was less obvious and somewhat contradictory. However, while Preobrazhenskii and Strumilin were clearly anti-market in principle, they both accepted the quantity theory of money in some form and Strumilin even used marginal principles in his work on education. Blyumin was the only economist to carry out a thorough and complete critique of neo-classical economics from an anti-market perspective, although he did not build any new theoretical schemes upon the Marxist framework. Bazarov's analysis of the market was highly original and employed a unique methodology. It is certainly the case that one approach did not dominate economic theory during NEP.

In chapter three I showed that Marxist economic theory written before NEP implied that as free markets had long since disappeared from capitalist production, they could safely be ignored when it came to making the transition to socialism. The instruments developed by monopoly capitalism would be used to socialise production and distribution, and thus 'the market' was not a topic which was greatly discussed in Marxist theory up until 1921.¹ However, the Bolshevik experience soon forced a revision of this attitude.

The question was raised in the introduction to this thesis if there was any change in attitude towards the market exhibited by economic theorists as a result of the experience of involvement with a semi-market economy. The economic theory which I examined points to a negative response to this question. It seems generally to have been the case that whatever technical and normative appraisal of the market a particular theorist held before NEP, this was retained until its demise. However, some minor exceptions to this could be noted. Strumilin and Preobrazhenskii both seemed to have more positive views of the market right at the start of NEP than they held once NEP was in full swing. In Preobrazhenskii's case *Ot nepa k sotsializmu* of 1921 is far more positive and optimistic in tone than almost all his later works, and in Strumilin's case his views on planning before NEP are much less rigid than those which developed towards the end of NEP. Bukharin's right turn after War Communism is well-known and does not need to be outlined here. Apart from these cases, the other theorists examined in this thesis seem to have retained their attitude towards the market and planning consistently throughout the decade.

9.2 - CONCEPTIONS OF THE MARKET

It is at this point that the answers to the questions outlined in the introductory chapter should be given. The two specific questions which I asked were: what does x think the market (and market economics) is, and what has this to do with socialism? It what follows I summarise the answers I have obtained to these questions throughout this thesis.

Bukharin's pre-NEP conception of market economics was heavily influenced by the Austrian school and Bohm-Bawerk in particular. For Bukharin the law of supply and demand was Bohm-Bawerk's law of marginal pairs, and his main critique of the Austrian school was that subjective value theory was based on circular logic. During NEP however Bukharin stressed some of the positive aspects of the market, for example that it can drive firms to be more efficient, and hence his appraisal of the

market went through a re-evaluation. This reappraisal was supported theoretically by a number of Bukharinites such as Aikhenval'd and Stetskii. In relation to the debates on industrialisation, Bukharin stresses the importance of market capacity, a 'demand' conceptualisation of markets. This view can be seen in the economic balance constructed by Popov, although I argued that Popov viewed this balance not as a replacement for the market but as a way of analysing it. Bukharin believed during NEP that socialism would be achieved through market relations, and thus the market was linked to socialism by him. However, it is clear he was not a market socialist.

Preobrazhenskii's technical view of the market as shown by his use of the quantity theory was not very different from 'bourgeois' economics. In contrast it is clear that at the height of NEP his normative view was negative, and that for him the market could not be related to socialism in any respect. This is demonstrated by his categorical opposition of the law of value with the law of primitive socialist accumulation. However, I argued that right at the start of NEP Preobrazhenskii had a somewhat less negative attitude towards the market, and even implied that socialism (but not communism) could include the market. It is revealing to note that Preobrazhenskii attempted to analyse the transitional Soviet economy of the 1920s using the theoretical concepts originated by Marx in his reproduction schemes, and thus that Preobrazhenskii was one of the few economists from NEP to take Marx's conceptualisation of a capitalist economy seriously. The work analysed in this thesis shows that Marx's particular economic tools were not utilised a great deal in the economic theory of the NEP period. Bukharin did raise the question of the equilibrium conditions for expanded reproduction in the USSR, but did not really elaborate any new ideas in this respect.

Strumilin viewed the market as a mechanism for revealing consumer demand, and tried to develop planning as a replacement for this type of mechanism. His normative appraisal of subjective value theory was negative, but he used the concept of the margin in his work on education. Strumilin attempted to analyse the formation of prices in the USSR using value

categories, but I argued that this attempt was without much success. Although both Bazarov and Groman also supported the introduction of planning into the Soviet economy, the way they cognised the market differed from Strumilin. Bazarov in particular developed an original analysis of market mechanics based on analogy with natural phenomena. It is apparent that Strumilin gave no role to the market in socialism, but that Bazarov and Groman were less categorical in their criticisms of market economics. However, Bazarov agreed that full planning was incompatible with commodity markets.

The Conjunction Institute's main task was the analysis of market conjuncture. Oparin's theorisation of this conjuncture owed a great deal to Western economics such as the Harvard Business School, and thus his technical conception of the market was almost identical with particular types of 'bourgeois' economic theory. However, his normative appraisal of the market recognised that boom and slump, crisis and depression was an integral part of market mechanics, and thus he prescribed planning to overcome these difficulties. Even so he viewed planning as working alongside the market, and thus he believed that there was a place for elements of market mechanics within a socialist system. Kondrat'ev argued that planning techniques must take into account the reality of market capacity, and thus also allowed a place for the market (viewed in a specific way) within planning.

Sokol'nikov and Yurovskii in Narkomfin both stressed the need for financial restraint in the debates on planning, and adopted a 'balanced budget' approach to financing growth. They believed that the financing of growth through loose credit policy would lead to inflation, which would have a negative influence on economic development. This type of argument was based theoretically on the quantity theory of money.² However, while they supported arguments taken directly from market economics, both Sokol'nikov and Yurovskii agreed that the USSR was on the path to socialism, and that this was to be supported. This can be seen to be contradictory. Yurovskii's analysis of Walras and marginal productivity shows that he understood both the production and the exchange optima conceptions of the

market, but that he was critical of the idea that these theoretical optima were obtained by capitalism in practise. Sokol'nikov's work on public finance written at the end of the 1920s shows that he was conversant with 'bourgeois' conceptions of the role of taxation, credit, the budget etc in a market economy, and to a large extent supported these conceptions as being correct in the Soviet context.

Chayanov analysed the 'place' meaning of the market in some detail, and related his proposals for peasant cooperatives to market structure. However, he did not use the spacial approach to market location pioneered by Thunen, and was more concerned with the mechanics of market trade rather than theorising the extent of the supply region served by a market. Chayanov was also concerned with optimality arguments, and to show that optima are system-dependent. He did use some aspects of neo-classical economic theory, but his theory of peasant farms was constructed on original presuppositions. His analysis of various types of ownership shows that he believed this question to be important, and that ownership forms had to be taken into account when analysing economic systems. His normative evaluation of the market was ambiguous as he recognised that markets were required for peasant cooperatives, but also that markets can lead to rural differentiation.

Blyumin attempted a thorough critique of neo-classical economics using a basic division between causal and functional analysis. This approach was original, although some of the specific criticism was repetitive in that it stressed the supposed circular reasoning of 'bourgeois' economists, an idea which Bukharin had used in his 1914 study of Bohm-Bawerk. In his analysis of Jevons Blyumin criticised the 'exchange optima' view of the market, and argued that this applies only in very restricted circumstances. It is revealing that Blyumin did not analyse production optima, and thus has only a partial view of the optimality conception of the market. Blyumin also attempted to criticise marginalism by employing the labour theory of value and Marxist concepts such as constant and variable capital. Blyumin's work shows that Soviet economists had detailed knowledge of recent developments in Western economic theory,

even if they did not make use of it in their work on economic policy.

One conception of the market noticeably absent from the economic theory of NEP is the Mises/Hayek view of the market as a conveyor of information. Historically this is not surprising, since this view was not widespread anywhere in the 1920s.³ However, this does have substantive theoretical implications. Those economists from NEP who had a straightforward 'demand' conception of the market (eg Strumilin) thought that the function of revealing consumer demand could be easily replaced by a type of planning. In fact if you accept the information carrier conception of the market, planning has to accomplish far more than the simple calculation of consumer demand if it is to successfully replace the market as an economic system. Thus it would be possible to argue that the simplistic conceptions of the market held by some in NEP allowed them to be overly optimistic as far as the function and capacity of planning was concerned. Perhaps the only economist from NEP to even tangentially raise this problem was Kondrat'ev, as he cautioned that planning would have to be far less all-encompassing than the plans that were then being attempted.

Another result which emerges from this thesis is that Marx's view that supply and demand explains nothing about the regularities of a capitalist economy was not stressed or expanded during NEP. Blyumin criticised subjective value theory for its functionalism and Bukharin argued that the 'price explaining price' approach was tautological, but as far as I can discern no theorist took up the idea that an understanding of supply and demand was totally superfluous to explaining the movement of concepts like the organic composition of capital and the rate of surplus value. It could be argued that Marx's view on this question was simply accepted without question, but even so it is revealing that this idea was not expanded. Yurovskii explored the various classical and neo-classical categories of price (eg natural price, equilibrium price etc), but not from a Marxist perspective. Perhaps the Marxist economists in NEP thought that Marx had said all that was possible to say on this topic.

In the theoretical framework I examined commercial law in the NEP period. This examination showed that this law was not fundamentally different from the commercial law which prevailed in capitalist economies, although forms of regulation did exist which may not have existed outside of the USSR at this time. Nevertheless it is clear that the conception of the legal framework which would accompany a market economy was very similar in both the Soviet and non-Soviet cases. In this respect at least Soviet theorists did not offer an alternative view of the market.

A noticeable absence in relation to concepts linked to the market can be detected as regards the idea of the entrepreneur. Bukharin did mention this notion, but only as a way to criticise subjectivism. An inevitable concomitant of allowing free markets to exist is the growth of private traders and small-scale capitalists. However, in the USSR during NEP this fact was viewed in terms of 'class struggle' and exploitation, not in terms of encouraging personal initiative and entrepreneurship. The idea that markets could stimulate the creative faculties of those who functioned in them was not a connotation which economic theorists from NEP could readily conceive.⁴

9.3 - CONCEPTIONS OF ECONOMIC SYSTEMS

In what follows I will attempt to situate each theorist I have examined in Wiles's spectrum of Central Command to Full Market presented in chapter one. Strumilin and Preobrazhenskii conceived of communism as CC, where consumer consumption and labour allocation are totally planned. At the other end of the scale Oparin, Kondrat'ev, Yurovskii, and Sokol'nikov conceived of socialism as somewhere between CM and RM, although for example Oparin's specific conception of the combination of markets and planning does not fit exactly into the spectrum as designed by Wiles. Bukharin perceived the NEP economy as somewhere between CM and RM, but still adhered to the idea that markets would be abolished in communism. Thus Bukharin's idea of

communism in this respect was identical with Strumilin's and Preobrazhenskii's.

Chayanov had an original idea of socialism which included a strong emphasis on peasant cooperatives. However, as I demonstrated Chayanov recommended that the market structure of these cooperatives should mimic much of the structure of private trade, and thus it would be reasonable to argue that Chayanov's idea of socialism included markets in this specific way. Wiles's spectrum takes no account of the nature of the firm embedded in the economic system, so Chayanov's particularity cannot be encompassed in this scheme. Blyumin, Bazarov, and Groman were not concerned to outline their views in detail of the best economic system, rather were concerned mainly with theoretical questions relating to doctrine (Blyumin) or current Soviet reality (Bazarov and Groman). However, it is apparent that Bazarov and Groman supported the general idea of a planned economy, and that they gave a role to markets within it.

It is clear that each theorist I examined had their own particular conception of the economic system which would be socialism. However, it would be wrong to impose ideas which developed only after NEP (eg market socialism) onto those theorists who gave a role to markets in socialism, as (for example) Oparin's equilibrium scheme approach has no straightforward parallel in contemporary economics. Had such approaches been allowed to develop I believe important original contributions to economic theory could have resulted.

9.4 - CRITIQUES OF THE MARKET

As to the types of critique of the market prevalent during NEP, there were both internal and external critiques and criticisms for inefficiency and immorality. Bukharin and Blyumin both accused subjective value theory of being based on circular reasoning and thus failing to explain price, this being an internal critique. Both also argued that only the labour theory of value could explain price satisfactory, and thus invoked an external comparison. Oparin's critique of market mechanics was

much more practically orientated, and revolved around the idea that entrepreneurs who base their activity purely on market signals are bound to make incorrect decisions, since these signals do not give the foresight required. This type of criticism is based on the inefficiency of the market as an economic system.

Sokol'nikov gave no detailed criticism of the market as far as I could discover, and thus it must be assumed that he favoured the market at least to some extent. However his 1930 work was noticeably more concerned with 'class struggle' than work from the mid-1920s, and so it must be assumed that he followed the general movement away from the market which occurred at the end of NEP to some extent. Yurovskii was also pro-market in practise, but did criticise Walras's theoretical implication that a market system was optimal. However, Yurovskii argued that Walras's theoretical presuppositions were not achieved in reality, and thus this critique is external in nature. Chayanov criticised market economics for universalising historically specific economic categories such as the labour market, and based his theory of the family labour farm on the idea that market-determined behaviour is inappropriate to explain the decisions taken by the heads of such farms. Such a critique is also external in nature. Kondrat'ev criticised conceptions of planning which failed to take into account human fallibility and which attempted to plan in too much detail, and stressed that planners should take account of market possibilities. This reveals that he viewed the market in a positive light in this respect, since he favoured it over human prognosis. Bazarov's original attempt to model market mechanics gives no indication as to his normative appraisal of the market, although his use of the word 'spontaneous' may suggest that he adhered to the same criticisms which were held generally. Again many different types of criticism of the market were prevalent during NEP.

9.5 - CONCLUSION

In a survey which I conducted of Russian economists in 1991 it is clear that neo-classical conceptions of the market are currently triumphant.⁵ It is also interesting to note that approximately half of the respondents believed that there was an alternative Bukharinite path after 1929, and half believed there was not. Given the huge practical problems associated with the attempted transition to the market, it seems unlikely that Russian economists in the 1990s will spend their time thinking up new conceptions of the market or analysing the history of Russian economic thought. Nevertheless this history is a rich and varied one which pays dividends to those investigating it.

I hope that what emerges from this study is a realisation and appreciation of the plurality of conceptions of the market which existed in the USSR during NEP, but which were prevented from further development by the imposition of Stalin's dull monolithic approach to economic theory in the 1930s. The USSR was probably the greatest and most important economic experiment ever attempted in human history, but unfortunately contemporaneous theorisation of this development is sorely lacking. The thesis attempted to examine economic theory just before the 'great break', and to demonstrate that blame for the poor quality of Soviet economic doctrine developed after 1929 cannot be placed on those economists who should have laid the ground for further development. Economic theory from NEP was as rich and diverse as could be expected from the economic position of Soviet Russia at that time.

- 1 More sophisticated accounts of monopoly and the difference between fixprice and flexprice markets did not really gain wide circulation in Western economics until the 1930s. Chamberlin's *Theory of Monopolistic Competition* of 1933 had appeared in thesis form in 1927, but NEP theorists were unlikely to have had access to it in the Harvard University Library. Cournot's account of monopoly was probably one of the more sophisticated accounts which NEP theorists could be expected to be familiar with. See Edward Chamberlin, 'The Origin and Early Development of Monopolistic Competition Theory', *Quarterly Journal of Economics*, November 1961. Of the eight hundred or so pages of Marshall's *Principles* only twenty are devoted directly to monopoly.
- 2 It is ironic that in Britain in the 1920s the treasury view on sound money was also under attack, in this case from Keynes. See Peter Clarke, *The Keynesian Revolution in the Making 1924-1936* (Oxford: Clarendon, 1988), p.47-69.
- 3 It is worth noting that in his 1922 work *Die Gemeinwirtschaft: Untersuchungen uber den Sozialismus* von Mises was already arguing that the narrow 'technicist' conception of the market which was prevalent among many socialists was inadequate, and thus that market socialism was not feasible. See Ludwig von Mises, *Socialism* (Indianapolis: Liberty Classics, 1981), p.119-123. The only Marxist to acknowledge this type of critique from Mises was Bukharin, who as I noted in chapter two called Mises 'one of the most learned critics of communism'.
- 4 As regards the sources and origins of the conceptions of the market exhibited by the economic theorists examined in this thesis, it would not be too great a distortion of the truth to say that little could be traced directly to Russian economists such as Struve or Dmitriev. A possible exception to this is Chayanov, whose interest in peasant cooperation may partly be indebted to Tugan-Baranovskii's *Sotsial'nye osnovy kooperatsii* of 1916. Kondrat'ev reviewed this work of Tugan-Baranovskii's in *Vestnik Evropy*, no.6 1916, p.352-354, so some influence is not out of the question with regards to Kondrat'ev also. In Struve's case it is clear why no Marxists directly built upon his work, although the reason for his relative neglect is less clear in cases of non-Marxists such as Yurovskii and Oparin. In *Khozyaistvo i tsena* of 1913 Struve argued that historically social regulation of prices has had little success, and that price actually resists rational social arrangement. See Richard Pipes, *Struve: Liberal on the Right, 1905-1944* (Harvard, 1980), p.149.
- 5 Vincent Barnett, 'Conceptions of the Market Among Russian Economists: A Survey', *Soviet Studies*, vol.44 no.6, November 1992, p.1087-1098. In this article I relate that 95% of Russian economists who completed the questionnaire agreed with the proposition that 'the market is the best mechanism to regulate economic life' (p.1089).

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